

CIO

WebBusiness

Section Two • October 1, 1998

154 Pages In Two Sections

# Minding YOUR OWN Business

Build customer confidence  
by coming clean about  
what you do with data

Page 32

ALSO INSIDE

Wire Education: The Harvard MBA  
Is Now Bundled With A Browser

Page 52



# CIO

# WebBusiness

Section Two • October 1, 1998  
154 Pages In Two Sections

# Minding YOUR OWN Business

## FYI

FROM: \_\_\_\_\_

Attached is a copy of **CIO Web Business**.  
The articles take a cross-functional look  
at leveraging the Web to add enterprise  
value. Thought you might be interested...

TO: \_\_\_\_\_

TO: \_\_\_\_\_

TO: \_\_\_\_\_

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ALSO INSIDE

**Wire Education: The Harvard MBA  
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Page 52

ce  
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# WebBusiness

VOL. 12 • NO. 1 • OCTOBER 1, 1998 • 154 PAGES IN 2 SECTIONS  
SECTION 2

## FEATURES

### 32 Saving Private Data

**COVER STORY: PRIVACY** What's the best way to build consumer confidence in your use of customer information? Tell them all, and tell them now. *By Sari Kalin*

### 44 Something Old, Something New

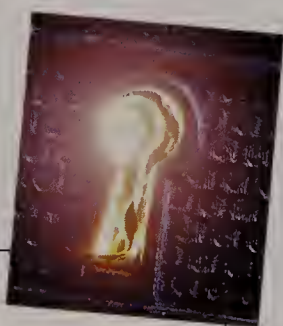
**STRATEGIC PARTNERSHIPS** TV is marrying the Web for two good business reasons: to extend brand and because it has no choice. *By Anne Stuart*

### 52 Wire Education

**ACADEMIC INTRANETS** At the venerable Harvard Business School, the Web is now at the heart of the curriculum. The result? A whole new crop of MBAs—with a whole new set of expectations. Corporate America, take note. *By Megan Santosus*

on the cover

Who's  
looking now?



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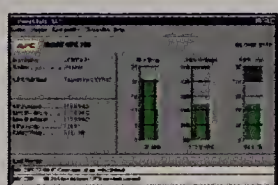
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## COLUMNS

### 22 The Rating Game

**NETREPRENEURS** BizRate polls consumers and asks merchants to buy the results. *By Art Jahnke*

### 24 Beyond the Log

**THE MAIN ATTRACTION** Track your Web site's performance beginning where the server log ends. *By Scott Kirsner*

### 28 Legal and Blinding

**GRAY MATTERS** The debate about UCC 2B is kicking up so much dust that it's hard to read what the new law really says. It's worth trying. *By Wayne D. Bennett*

### 60 Flash Is Trash

**CUSTOMER INTERFACE** People want real information and they want it fast. *By Jim Sterne*

### 64 Designing Principles

**POWER SOURCE** An online catalog is only as good as its design. *By Fred Hapgood*

### 74 Speeding Up

**BY REDESIGN** NASDAQ's redesign yields speed and access. *By Sari Kalin*

## DEPARTMENTS

### 8 Home Page

### 10 In My Opinion

Letter from the publisher • On our Web site

### 12 Threads

Buy Now, Pay Later • Who'll Stop the Rain? • Not Being There • Killer Applications • Is There a Doctor on This Intranet? • Cyberspace Patrol • Policy Matters • Steal This Book

### 72 Index

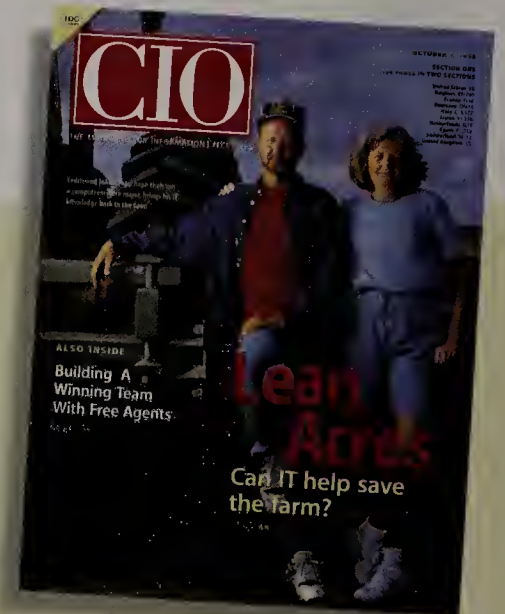
64



24



60



## Inside Section 1

### COVER STORY: MANAGING CHANGE

Comes a time when every commercial farmer has to ask himself a personal and philosophical question: Am I a tiller of the soil or a CIO?

**I.S. STAFFING CRISIS** In the face of crisis, schools must pave the way to common ground for business and education.

**THE NEW WORKFORCE** More and more, companies need to blend in-house staff with outside contractors. Here's what to do when part of your team doesn't really feel like part of the team.

**THINK TANK** When will you get around to organizing your information?

**YEAR 2000 CHALLENGE** Many Y2K projects ignore crucial external dependencies like power and telecommunications.

**EMERGING TECHNOLOGY** As more corporate information is stored as audio and video files, users want immediate access. New indexing tools tackle the problem.

**SHOP TALK** The Metropolitan Museum of Art's Arthur Tisi on creating a Web presence.



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# Privacy Shmivacy

**L**IKE MANY PUBLICATIONS COVERING TECHNOLOGY, CIO HAS WRITTEN extensively about IT's potentially corrosive impact on personal privacy and the obligations businesses bear to shore up the ramparts for customers. We do so again in this issue (see "Saving Private Data," by Senior Writer Sari Kalin, on Page 32).

But I think we chroniclers have missed the mark by labeling the matter as "serious." Plainly, it seems not so serious to most people. The world still awaits the long-predicted seismic event that will trigger public outrage about breaches of privacy, and my guess is that such an event will never come. No bang, and probably nary a whimper.



Apart from a tiny minority of the tenaciously indignant, most of us concede that we haven't a remnant left of what was once known as privacy. Like teeth adjusted by orthodontia, decades of pressure have moved us toward tolerant indulgence of privacy incursions which, had they occurred all at once, would have provoked howls of protest.

But almost nothing happens "all at once." Quickly, yes. But hardly so suddenly that most of us can't follow along and adapt. That is the mystery of change, which (again like orthodontia) aches for a little while and then, eventually, becomes familiar—at which point we are ready for more. We can cover amazing distances by increments. And that is how we have migrated

from having considerable privacy (along with an abiding respect for privacy) to having virtually none. And scarcely minding.

In fact, as volunteers rather than conscripts, many give it up (or, more accurately, allow themselves to be cheaply bought off) in affinity-card relationships with grocery stores, retailers and airlines. What seems interestingly counter-intuitive is that, as the world is perceived to have become more dangerous, people seem more willing to be intimately known by total strangers. What's with that?

In the sanding away of privacy, technology has exerted a deep impact, with television the chief modern culprit. Technocritic Neil Postman believes that historically we have much-too-uncritically accepted new technologies. Television, he says, deprived adults of the power to conceal information from children, to regulate their access to forbidden knowledge. This was a wholly predictable outcome that scarcely a soul predicted. Moreover, television gradually habituated us to expect exposure. Now, beyond simply expecting exposure, we demand it.

On talk shows, in books and magazines, and on Web sites, gaudy exhibitionism (some fabricated) suggests we pay lip service to our cherished love of privacy. If it were revealed tomorrow that Web sites collaborate to compile a sharply detailed image of every user's activities, tastes and habits, it would be news, but I doubt there would be much surprise—and even less objection. We are now comfortably accustomed to technology's advancing mastery over mere information.

Dissenters? Do you think your privacy is really worth protecting? Let us know.

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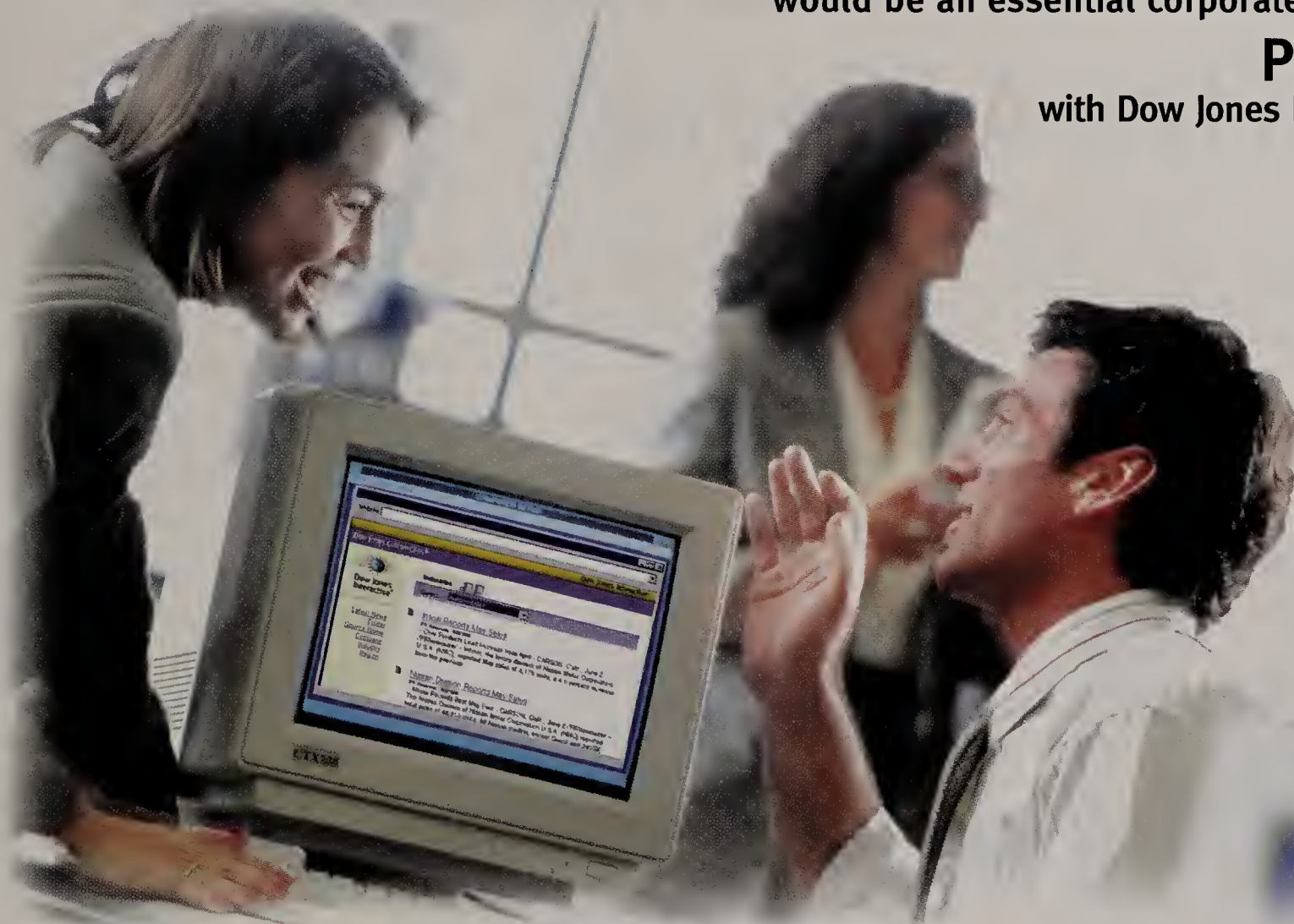
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**P**ROCTER & GAMBLE HAS TAKEN THE FIRST STEP IN TRYING TO MAKE the Internet ready for prime time as a mass advertising medium. P&G will do for the Internet what it has done for radio and television—help validate the medium.

Recently, P&G, including some of its competitors like Kraft and Unilever, held two days of meetings with 400 Internet industry leaders to set guidelines for the Internet as an advertising vehicle for the 21st century. P&G has considerable clout. In 1997 P&G spent over \$3 billion on advertising, of which only \$3 million was spent on Web-based media.



Procter & Gamble cares so much about the Internet because it has become the first medium to reduce television viewership. Since Web surfers have shown little interest in online serials, P&G is anxious to find how to sell soap without soap operas.

Some question whether banner advertising and other online vehicles can achieve the emotional connection of television. Many attendees feel the Internet is better suited for providing detailed information about brands consumers already know from other media than for mass marketing.

Part of the problem relates to bandwidth issues, which make the Web best suited to text, still images or simple animation rather than full-motion video and

stereo sound. Today most Web sites offer information or facts rather than emotional content like stories. One of P&G's goals was to get the industry to offer larger, more elaborate advertisements that can grip an audience the way television does.

The outcome of the meeting will set the agenda for the Internet for years to come and will benefit CIOs and other business executives in planning Internet-related strategies. On the to-do list: draft standards for measuring online audiences, establish a set of ad types that Web sites will accept and develop a way to reconcile contradictory data provided by various online reporting services.

In my opinion, if this industry effort works, it could move billions of dollars in advertising revenue to the Web and away from television and other media. Companies are eager for new ways to reach consumers. Today a single commercial on network television gets one-third the audience it used to get. With television commercial prices soaring, the cost-effectiveness of mass media has been lost.

How is your organization planning to use the Web in the future? Is your technology platform ready to take advantage of the new Internet economy?

What's your opinion? As always, I appreciate your thoughts and comments.

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# THREADS

## Buy Now, Pay Later

**U**.S. COMPANIES THAT BUY GOODS and services overseas and pay for them in local currencies know that what you pay depends on when you pay.

If the local currency tanks, the U.S.-based payer makes out; if the value of local currency rises, the Americans take a bath. Large multinational corporations have entire departments that track currency fluctuations and try to determine the most advantageous moment to pay a bill—today, tomorrow or next week. But most small and midsize companies are not so well informed and therefore miss an opportunity to save (or earn) money on every foreign transaction.

To their aid comes *www.fx4business.com*, a Web site built by Thomas Cook Currency Services Inc. in Toronto, whose expertise in foreign exchange is built on a century of experience with bureaus in more than 100 countries. The Web site offers advice as well as links to many other sites offering advice about in which direction foreign currencies are headed. And when the payer has decided when to pay, the site's Virtual Trading Desk will pay the bill for them, once a trading account has been established.

"This is the first time that people have had the ability to send a draft of Japanese yen or Italian lira from their office with current rates and know exactly what it is costing them," says John Telford, senior vice president of corporate foreign exchange at Thomas Cook.

The Web site was first launched last year, but a recent relaunch has added new information and new capabilities, such as allowing companies in the United Kingdom and the United States to pay bills via Virtual Trading Desk.

Thomas Cook makes money on each transaction, charging \$15 for a wire transfer and \$5 for a bank draft.

"Until now, some businesses literally had to walk into the bank branch and have someone wire the money," says Telford. "This is a big improvement."

—Art Jahnke



## Click Here to Feed the Kids

Projected online grocery sales in the year:

**2000**

2 percent  
of total  
grocery sales

**2007**

15 percent  
of total  
grocery sales

SOURCE: EMARKETER.COM



## Who'll Stop the Rain?

Corporate types looking for one more reason to work at home may find it in a new study by climatologists at Arizona State University in Phoenix. Researchers there who analyzed Eastern seaboard weather data dating back to 1946 found that patterns of rainfall matched patterns of air pollution, peaking at the end of the week and reaching the lowest point on Monday morning.

The study, according to *The Boston Globe*, showed that rain from Florida to Nova Scotia followed a seven-day cycle, peaking on Saturday, with an annual average of 658 millimeters, and dropping to its lowest point on Monday, with an annual average of 538 millimeters. The 22 percent difference surprised even the researchers, who compared those numbers with air pollution measured by a research station on Sable Island, 200 miles off the coast of Nova Scotia. The primary source of that pollution is vehicle traffic. The obvious question is, if we work at home, using the Web instead of a car to connect with the office, will it rain less on weekends? The probable answer is "yes," but if you work at home you'll be at work on weekends.

—Art Jahnke

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# Introducing Jasmine™ Objects @ Work™



## Not Being There

**W**ITH WORK AND FAMILY schedules growing more crowded, many business conferences are growing less crowded. Turns out the Web can help people get to conferences without going anywhere.

"The Web is perfect for virtual seminars because it integrates multiple media," says Chuck Martin, author of *The Digital Estate: Strategies for Competing, Surviving, and Thriving in an Internetworlded World* and the current *Net Future: The 7 Cyber Trends That Will Drive Your Business, Create New Wealth and Define Your Future*. Over the Web, Martin says, audio, telephone, e-mail, video and PowerPoint presentations can be combined to deliver rich content.

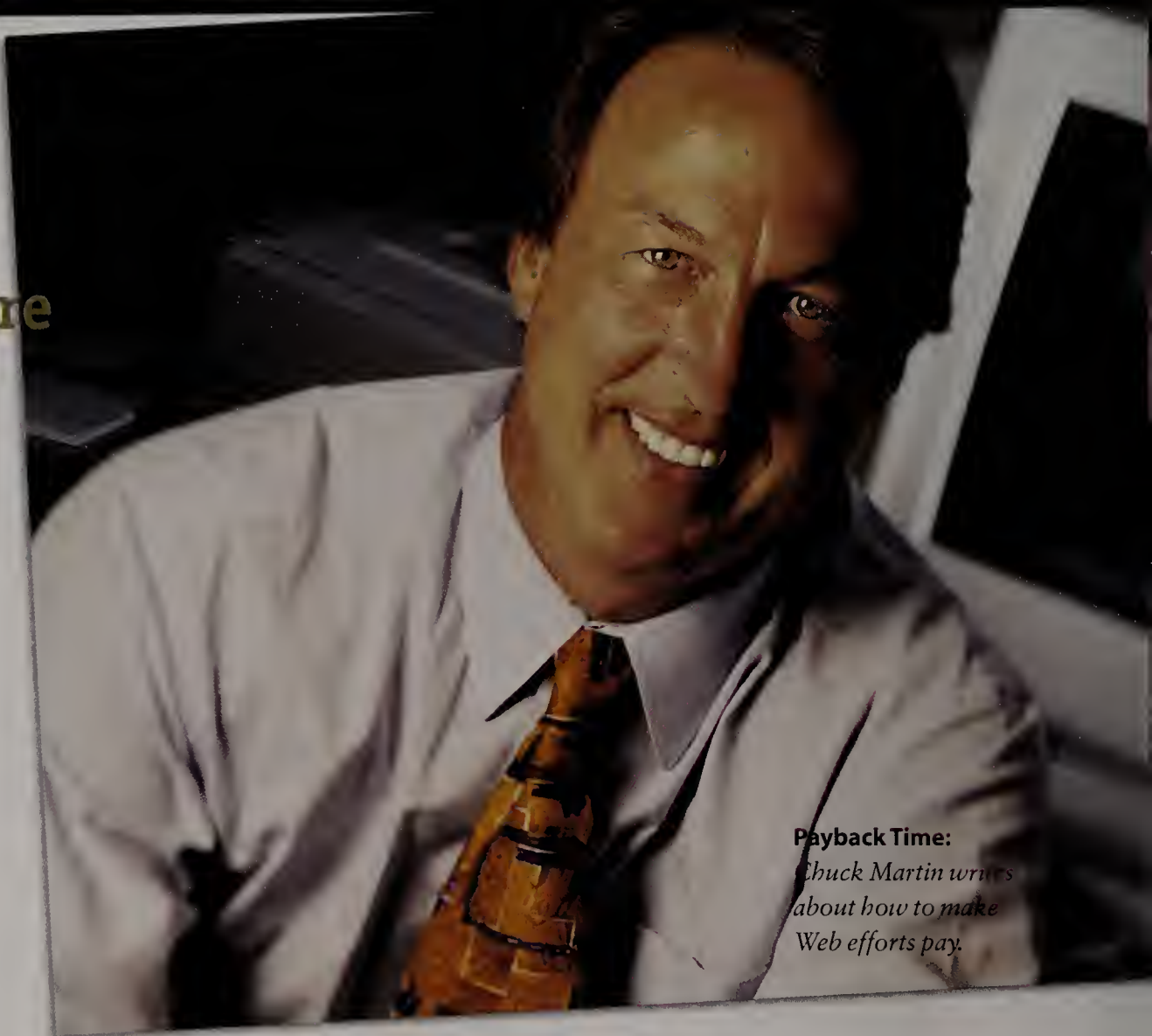
"More companies are looking at different ways to reach people quickly and share a message or to deliver real-time training," says Martin. "Just to stay competitive you will have to use the technology of the Internet to keep people up to speed."

This month, Oct. 6 through Oct. 8, Martin will participate in a virtual seminar called web.works.

Sponsored by SQL Financials International Inc. in Atlanta and *Management Accounting* magazine, the seminar is entitled "How to Achieve Real Payback from the Internet."

Martin will discuss how companies need to change in order to take full advantage of Internet technology. Appropriately, Martin will not actually be at the conference himself; his virtual presence will be sent from San Diego, where he will be a speaker at CIO's Perspectives Conference.

—Megan Santosus



**Payback Time:**  
Chuck Martin writes about how to make Web efforts pay.

## Killer Applications

It was just last year that colleges began accepting applications online, and already at least one school is no longer accepting applications offline. MIT's Sloan School of Management in Cambridge, Mass., recently announced that from now on, the only way to file an application is electronically. Sloan School applicants are expected to visit a Web site linked to their own Web pages, where they fill out required forms, pay fees and have Graduate Management Admission Test (GMAT) scores sent to the admissions office at Sloan. The Web site, built by GradAdvantage, sponsor of the GMAT, also handles applications for several other business schools, including Harvard, Columbia and Dartmouth, all of which still accept paper applications as well.

Students pay a \$12 processing fee, and schools using the Web site pay a \$5,500 annual fee. MIT representatives say the school will save that and more in money that would have paid for postage, paper and staff time.

—Art Jahnke



## GET ONE

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—Bran Ferren, executive vice president for creative technology and R&D, Walt Disney Imagineering





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## Is There a Doctor on This Intranet?

**W**HEN MASSACHUSETTS GENERAL HOSPITAL (MGH) employees want to send their coworkers a page, they don't need to pick up the phone; they can just click on their intranet. Partners HealthCare System Inc. in Boston, a health-care network formed by the 1994 merger of Boston-based MGH and Brigham and Women's Hospital, has rolled out a paging application on its intranet as part of an enterprisewide online directory. If an MGH employee wants to send a Brigham doctor a page, for example, he or she can go to the intranet's directory, find the doctor and type a message. Within four seconds, the message is sent to the hospital's radio common carrier, Mobilecomm, says Kathleen Monbouquette, Partners' corporate director of telecommunications and operations. The page itself is initiated within 30 seconds. Employees can also send e-mail messages from the directory, which is

based on InterSystems Corp.'s Cache database management system.

Partners unveiled the intranet directory and paging system in June 1997, when MGH and the Brigham began to integrate a few of their residency programs, Monbouquette says. Unifying the hospitals' directories and paging systems makes it easier to find residents as they rotate from one facility to the other and to find employees who have moved. And there are advantages to making paging accessible over the intranet: Employees can easily change their "status"—that is, indicate when they are out of the hospital or when someone else is covering for them—via a Web browser rather than hav-

ing to call an operator. And all pages are saved online.

Currently, 10,000 employees at MGH and Brigham and Women's have pagers accessible via the intranet, which is used by 30,000 people; Partners' next goal is to add access to pagers at other Partners members' facilities.

Monbouquette estimates that 65 to 70 percent of the enterprise's pages are initiated over the intranet, and the number is growing. "People love it," she says. "People are naturally inclined to like the Web-based application better."

—Sari Kalin



## Cyberspace Patrol

Now that 20 percent of all stock trades are conducted online, 20 percent of investment scams can't be far behind. The Securities and Exchange Commission (SEC) is so concerned about the increase in Internet stock trading shenanigans that it has set up a new office, the Office of Internet Enforcement, to fight crime. John Reed Stark, formerly the SEC's special counsel for Internet projects and the head of the new office, says he expects to target crimes similar to the 30 cases that the SEC has already prosecuted. Stark says those include phony offerings, pyramid schemes and market manipulation.

And although at this point the new office has a staff of two (including Stark), it has technology on its side. An SEC Web site ([www.sec.gov/enforce/comctr.htm](http://www.sec.gov/enforce/comctr.htm)) lets anyone with Internet access report their suspicions of a scam, effectively expanding the agency's surveillance team to several million vigilantes. So far, says Stark, he is getting about 120 complaints via e-mail a day.

—Art Jahnke





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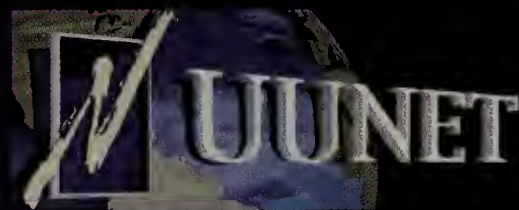
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A WORLD COM COMPANY



## Policy Matters

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While one might attribute the decline of surf-abuse to monitoring products like the one his company offers, Haggerty does credit the downward trend in part to another practice. Companies are increasingly writing and publicizing an acceptable Internet usage policy for employees. In the study, half of the respondents have such a policy in place, while another 43 percent plan to put one in place. Policy matters. —Megan Santosus

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Percentage of time ads convey advertisers' message:

| Interstitial | Banner |
|--------------|--------|
| 33%          | 16%    |



## Steal This Book

FOR YEARS, IN SEVERAL countries around the world, Allied Signal Inc. in Morristown, N.J., maintained 23 law libraries filled with many identical, often expensive hardbound legal texts. Library maintenance cost several hundred thousand dollars a year, a price that Allied, a global aerospace and engineering company, figured it simply had to pay to make critical legal documents available. It was wrong.

"I've put 95 percent of our hard copy collection online," says Joe Vidal, Allied Signal's manager for the Law Information Center. Vidal's new legal intranet centralizes control of legal information, eliminating the yearly purchasing of many books, some of which go for \$1,500. And the online library's searching capabilities cut research time by more than 85 percent.

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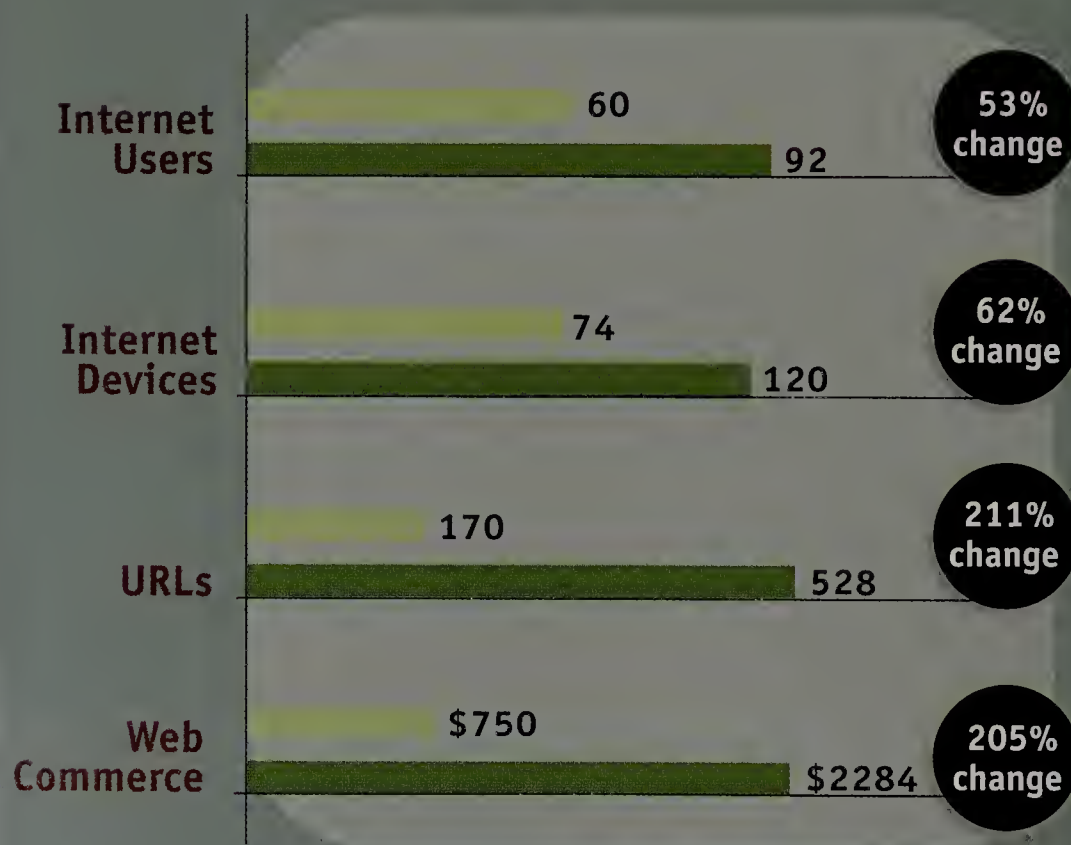
—Art Jahnke

## And Still Growing

A year in the life of the Internet

as of May 1997  
as of May 1998

All figures in millions.



SOURCE: INTERNATIONAL DATA CORP.





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# What the industry is saying about Infrastructure Management and Peregrine Systems . . .

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**"Shell Services International is fully committed to delivering service excellence. We see the Peregrine Infrastructure strategy as underpinning this commitment, and ServiceCenter as a key to ensuring our global service delivery processes meet the needs of our demanding customers."**

*Sandy Rennie, Manager of Global End-to-End Services Management Development, Shell Services International*

*"Infrastructure management is knowing what infrastructure is in place, managing its lifecycle and analyzing performance so it can be maintained or improved. Peregrine Systems provides applications which manage this process."*

*Cassandra Millhouse, Analyst, Ovum Ltd.*

**"Infrastructure Management focuses on aligning people, processes and technology to lower total cost of ownership (TCO) and improve service levels. For an enterprise transformed by implementing SAP or other enterprise resource planning (ERP) applications, our FastTrack methodology coupled with Peregrine Systems applications provide a framework for a successful infrastructure management implementation."**

*Trevor Gee, Deloitte & Touche LLP Consulting Group*

**"Aberdeen Group believes that Peregrine Systems is leading the industry in the move toward Infrastructure Management. Organizations looking to maximize efficiency and profitability should carefully consider the benefits of Infrastructure Management as a way of maximizing the financial and functional management of assets throughout their enterprise."**

*Christopher Fletcher, Analyst and Manager, Aberdeen Group*

**"To build a world-class service organization and optimize its performance, an organization needs the right tools. We believe Peregrine Systems is the leading company providing a total IT Infrastructure Management product solution."**

*Bill Bentley, President, TSC — The Bentley Group*

**"The Dow Chemical Company, with headquarters in Midland, Michigan, began its search for a system to manage its global IT asset portfolio in July 1997. The system had to handle a large volume of assets, be flexible for customization to our needs, and be responsive to our users in a global wide area network environment. AssetCenter was the only available product in the market which addressed our stringent requirements. Excellent implementation and technical support was provided by Peregrine which led to a very successful implementation of the system."**

*Wayne Conklin, Project Manager — Asset Management, The Dow Chemical Company*

**"Leading IT organizations must evolve from the traditional 'reactive help desk' to a IT Customer service center serving as the single point of contact for all service requests in an organization. They must also provide the ability to manage other infrastructure such as asset lifecycles, product procurement, voice and telephony, and facilities information."**

*Kurt Johnson, Program Director, Services & Systems Management Strategies, META Group*



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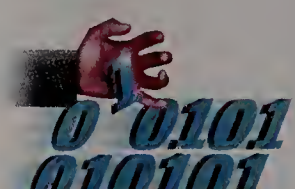
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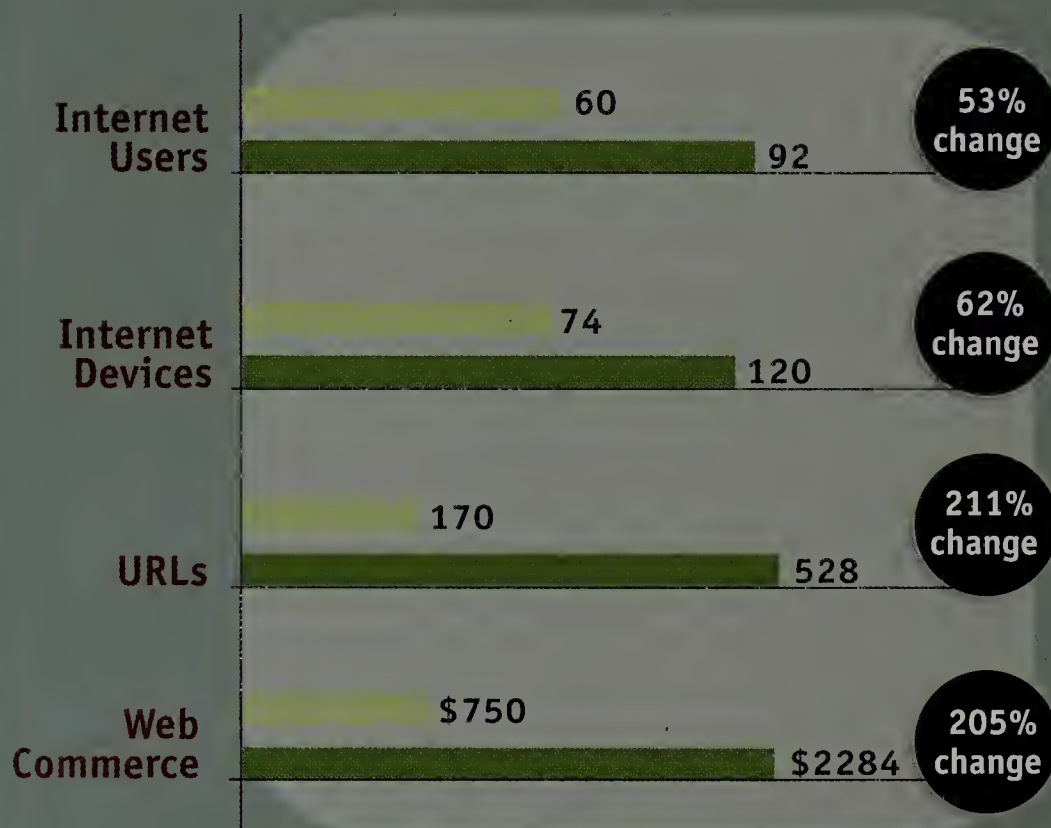


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All figures in millions.



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# The Rating Game

*BizRate asks consumers to tell it everything and then asks merchants to buy everything that it has been told*

BY ART JAHNKE

# F

OR CENTURIES, INVENTORS HAVE BEEN TRYING to build a perpetual motion machine—a closed system that once started will run forever. Farhad Mohit, the 29-year-old founder and CEO of Binary Compass Enterprises Inc. (BCE), thinks he may come close. Mohit has created an engine that gobbles information from consumer surveys placed on e-commerce Web sites, packages it in several ways and markets it as the BizRate Guide. The perpetuating magic, Mohit hopes, will work like this: The more information that is input, the more reliable the outcome, and the more reliable the outcome, the more merchants will choose to be surveyed, and the more merchants surveyed, the more information will be input, and on and on. Where it all ends, even Mohit doesn't know, but he expects to stop at the bank along the way.

BizRate's information comes from online surveys of shoppers' likes and dislikes, which present themselves to shoppers after they have purchased something at CDnow, Virtual Vineyards, Cyberian Outpost or at one of more than 115 other e-commerce Web sites that have signed on as "Gold" members of BizRate. BizRate, whose 25 employees are based in Culver City, Calif., rakes in reams of data about such things as ease of site navigation, availability of information, product selection and site aesthetics.

A general overview of how those sites stack up against others is offered at no charge at [www.bizrate.com](http://www.bizrate.com). It's handy advice for anyone who worries about a Web site's reliability, and it's a handy marketing tool for BizRate.

BizRate itself is little more than a public storefront for BCE, a marketing research company. BCE takes the same data gathered by BizRate surveys, packages it in various ways and sells it to companies that pay as much as \$10,000 a month for detailed reports that benchmark customers' perceptions of their sites' performance in many categories against customers' perceptions of other sites' performance in the same categories. Mohit says he

now has at least 20 companies buying detailed reports at least once a month.

The concept for all this was first imagined by Mohit nearly four years ago, when he was a student at Wharton Business School.

"I saw that the Internet was going to be a huge medium," says Mohit. "I saw right away that people were going to transact on this medium. But buyers wouldn't be able to see who they were dealing with, so every time they buy something they are making a leap of faith. I thought about what would be the best way to qualify retailers on the Web. Then I thought, Why don't we ask the users?"

Mohit assembled a team of four other students, who took on BizRate as a project for a course in entrepreneurial management. After graduation, three of the students moved on to other jobs, but Mohit and Henri Asseily, who is now BCE's chief technology officer and chief information officer, stuck with the project. For the next two years, they labored night and day—Asseily building the back end with proprietary technology and Mohit trying to persuade companies like Virtual Vineyards and 1-800-FLOWERS to let them survey Web site shoppers.

The point-of-sale survey that Mohit asks Web sites to post includes 35 questions that cover such things as the difficulty of the ordering interface, the range of product selection and the price of merchandise. It also collects information about the shopper himself, such as how much money the shopper spent on the site, where the shopper learned about the site and what the shopper considers the most important aspect of an e-commerce

**Mohit imagines a democratic mercantile utopia where the opinions about products are based more on consensus than on ad campaigns.**

Web site. A few days after the purchase, BizRate e-mails the shopper a follow-up questionnaire, asking about satisfaction with the product and delivery. Mohit says most clients appreciate the depth of the survey, and those that decline his offer to post it do so for other reasons.

"We meet two kinds of resistance," he says. "The first is, 'Who the hell are you to judge me?' and the second is, 'If





**TO MARKET, TO MARKET:** Farhad Mohit plans to get the goods on all goods sold online.

[www.bizrate.com](http://www.bizrate.com)

I come on the system it will be the death of me because right now we suck.”

Mohit is not discouraged. BizRate's approach to merchants is as clever as one would expect from a company whose product is marketing information. E-commerce merchants are invited to join BizRate as either Silver or Gold members. Silver members (there are now 350) are those who do not post a BizRate survey but do allow their site to be evaluated by BizRate staff. The evaluation costs nothing, and from merchants' perspectives, there is little to lose, even if they understand that BizRate's ulterior motive for signing on Silver companies was to transition them to Gold memberships. Gold “members,” who also pay nothing, are those companies that authorize BizRate to post its customer survey on its Web site and in return receive two short reports on customer satisfaction each month. From merchants' perspectives, there is little to lose, even for those merchants who understand that BizRate's ulterior motive for sending the cursory reports is to transition them to purchasing with more detailed and more expensive reports.

Mohit hopes that interest in the information gathered at BizRate is not limited

to BizRate members. He claims that every company that does business online or that is planning to do business online could find value in knowing what shoppers love and hate about their online experiences. So BCE offers broadly focused quarterly reports, such as the Fourth Quarter 1997 Internet Shopping Report, which was based on 32,826 customer surveys.

Opinions of the value of BCE surveys seem to vary as much as the opinions the surveys present. Some companies—even some Gold members who rate high on BizRate's list of best sites—have little interest in buying information about their own site.

“I think it would be kind of strange to buy information from them about us,” says Ron Risman, director of Internet marketing at State Street Direct, a division of State Street Discount Inc. in Portsmouth, N.H. ([www.ssdonline.com](http://www.ssdonline.com)), an electronics merchant that is among the top 20 shopping sites recommended by BizRate. “At this point we are using their service more as a marketing tool. I think when customers see that the site is rated, it gives them a certain comfort level.”

Risman says his company has been solicited to buy detailed reports, but it is holding off because it is not convinced that BCE's data can help them.

Mike Farrace, vice president of publishing and direct to consumer at MTS Inc./Tower Records in West Sacramento, Calif., has a more favorable opinion of the data. Farrace says he finds great value in the two free reports he receives each month from BCE. “One thing we get from them is useful anecdotal information,” says Farrace. “People will say things like, ‘You should do xyz the way Amazon.com does it instead of the way you do it,’ and we'll go look and see what Amazon.com does better.” Farrace says he has requested more detailed reports from BCE and is waiting to receive them.

In April BCE accepted \$4.5 million in venture capital from several sources, including a former president of ACNielsen. The new money will fund BCE's most ambitious

move yet—transitioning from rating Web storefronts to rating products themselves.

Mohit knows that the move will land BCE in the arena with competition like *Consumer Reports*, whose Web site posts product evaluations that have been conducted by *Consumer Reports* staff, but he claims to be unintimidated.

“We are not averse to competition,” he says. “One thing we bring to bear is our technology, which lets the consumer rate the products. I think *Consumer Reports* is ill-suited to the Internet.”

In his fantasies, Mohit says, he imagines a democratic mercantile utopia where the opinions about the performance of merchants and the quality of products are based more on consensus than on ad campaigns. But will the marketing departments of corporate America really hand over that kind of power to a bunch of kids who until last year were working out of the basement in the home of their parents? Mohit thinks so.

“It is imperative that consumers have this [product] information,” he says. “It's true that for merchants, it's like asking them to open their kimono and show everyone what they've got.” **CIO**

Senior Editor Art Jahnke can be reached at [ajahnke@cio.com](mailto:ajahnke@cio.com).



## THE MAIN ATTRACTION

# Beyond the Log

*The best measures for tracking your Web site's performance begin where the server log ends*

BY SCOTT KIRSNER

**E**VER SEEN A SERVER LOG? IT'S NOT A PRETTY SIGHT: ENDLESS lines of data on every document that users have requested from your Web site. Time, date, file size, the visitor's IP address and browser type. Trying to glean business intelligence from this kind of raw information is like looking for a lost kitten from the window seat of a 747.

Yet plenty of Web sites still rely on basic statistics like hits and page views, extracted from the server log, to gauge the effectiveness of their Web efforts. With the Web gaining in importance as a business tool—for sales, investor relations, customer service, new-client acquisition and recruiting—those measures aren't sufficient anymore.

No retailer opening a new location would rely solely on a turnstile count of how many shoppers had entered the store to determine whether the shop was a success or still needed more work. Consequently, savvy companies are starting to seek more nuanced and business-focused measures of Web site performance than hits or page views.

"Initially, everyone wanted to claim that their Web site was getting a million hits a month," says Matt Cutler, cofounder and director of business development for Net.Genesis Corp. of Cambridge, Mass., a com-

pany that makes traffic analysis software for Web sites. "And early on, Web teams were very technology-focused, so we had those kinds of technology-focused measurements. Business people are only now thinking about more business-centric metrics."

Some of the early examples along with issues related to their use prove edifying.

## Transaction Tracking

Among those in search of better data is Al Lenza, vice president of distribution planning at Northwest Airlines in St. Paul, Minn. The goal of the airline's site is pretty straightforward: to sell tickets. "It's about 50 to 80 percent cheaper for us to sell through our Web site than through other channels," Lenza says. The most important metric for Northwest, not surprisingly, isn't hits—though the site gets more than 35 million of them a month—it's bookings. In early 1997 the airline was selling fewer than 40 tickets a day; now it's nearing 1,000 (of which 150 or so are frequent-flyer claims transactions).

Lenza's Web team gets daily reports on the number of tickets sold. "The money we spend has to produce value," he says, "so we like to know how we're doing." Northwest is also working to develop

new metrics to measure how effective the Web site is at reducing call volume to Northwest's customer service reps. "We don't want people to call in to find out whether 32C is a window or an aisle seat," he says. Lenza knows that 35 percent of such inquiries now arrive via e-mail, but he'd like a better yardstick for determining how much money that saves the call center.

Bottom line for Northwest: If Lenza's metrics can prove revenue growth and cost savings, his Web team gets more funding.

AutoVantage is a service

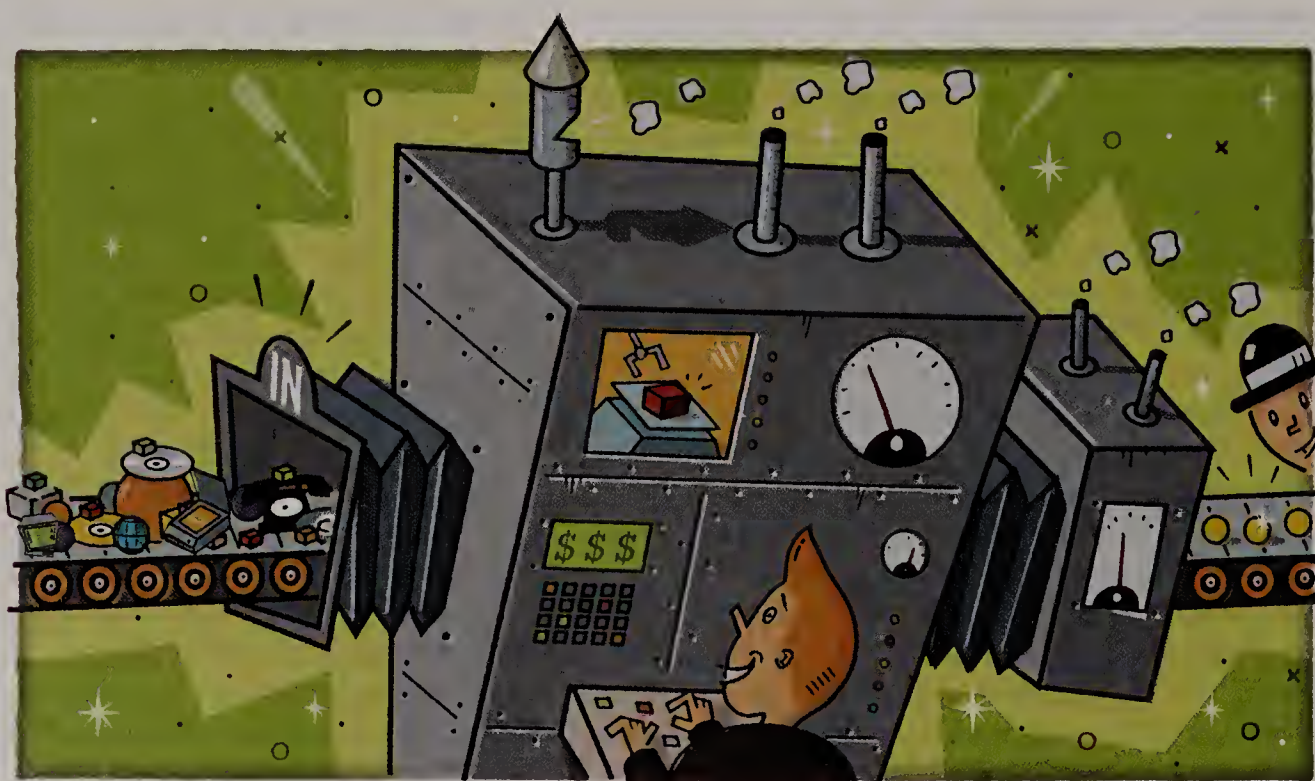
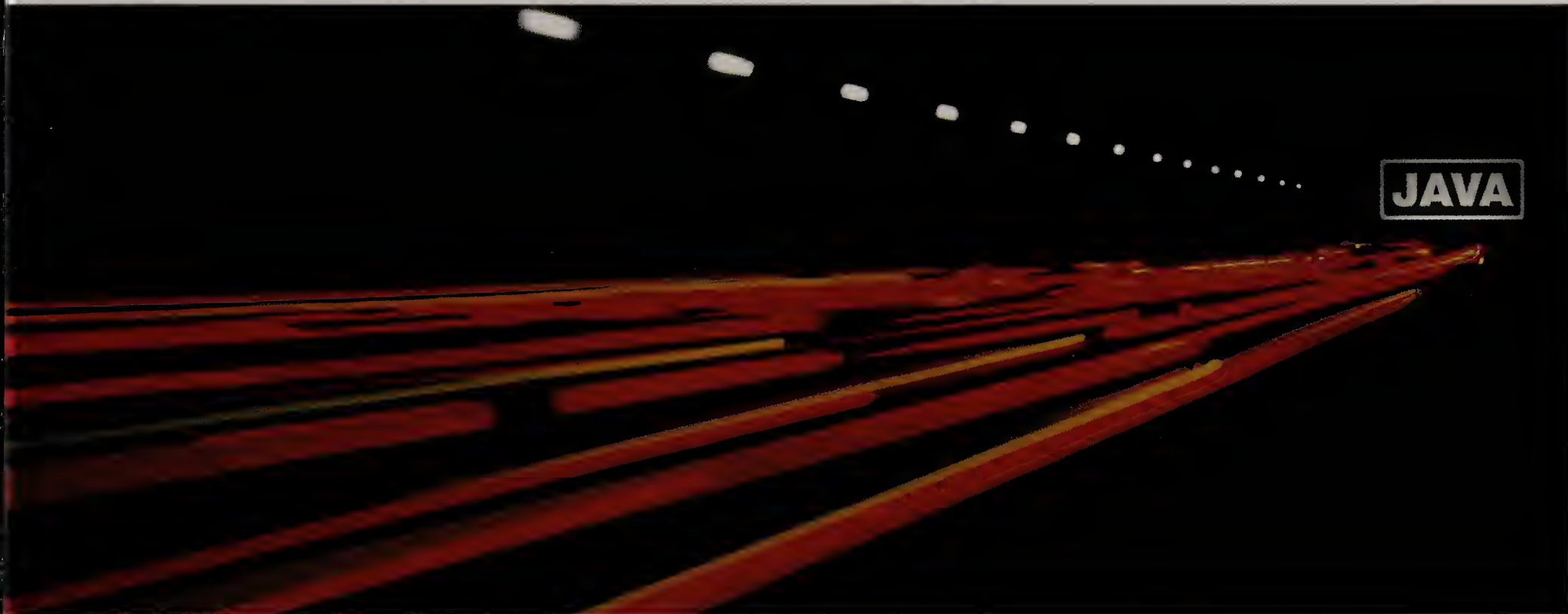


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provided by its parent company, Cendant Corp., another company that has embraced business-centric Web metrics. The site, based in Parsippany, N.J., earns money from automobile dealers who pay to advertise, eager to attract buyers. So the primary measurement for AutoVantage is how many visitors submit a purchase request, asking for a price on a specific car. In the first half of 1998, says AutoVantage Vice President Ken Esterow, virtual tire-kickers generated between 30,000 and 50,000 requests a month.

A secondary metric for AutoVantage is the total number of visitors to its site (780,000 in June). That lets Esterow examine the ratio of total visitors to those who submit a purchase request and determine whether his advertising is attracting serious buyers or indecisive window-shoppers. "We don't want to increase the number of visits without increasing purchase request activity," he says. Finally, Esterow keeps tabs on how many visitors who submit a purchase request actually buy a car from one of the site's affiliated dealers—currently about 18 percent.

All three metrics help the site compete against rival Autobytel.com Inc. in attracting dealers and building revenues. If the metrics show that AutoVantage is attracting too many window-shoppers, Esterow knows he'll have to adjust his marketing mix to better target serious buyers.

Even publishing sites, which can't measure transactional activity the way Northwest and AutoVantage can, are discovering new metrics that offer better insight into their readership and their sites' effectiveness. Individual Investor Online, the Web companion to the monthly magazine, counts visitors who have registered for full access to the site (115,000 so far) and is also developing more sophisticated ways to measure how long visitors spend on the site and with each page. "We want to know if people are engaged with the content," says Michael Valentin, Individual Investor's director of Internet technology. "Are they reading it? How often do they return?"

### Effective Branding

What about Web sites whose goal is to build brand awareness? Calculating the impact of such sites is one of the toughest tasks facing new-media executives.

Andersen Consulting attempts to

gauge branding effectiveness by including questions about its Web site on an annual tracking survey it conducts. "We have several high-level goals, and one of those is to continue to build our global brand," says James Murphy, Andersen's global managing director of marketing and communications. Survey results help Murphy hit his objectives.

Andersen's Web site is also a key recruiting tool for the company, which plans to hire 15,000 people by the end of 1998. So Murphy is concerned with the number of résumés submitted via the Web site. "We have numerical goals on that," Murphy says. "We want to generate a certain number of résumés from the Web," he says, "and then track how they do through the recruiting process."

### Integration with Other Media

Cindy Johanson wants to find sophisticated metrics that explain the relationship between TV broadcasts and Internet traffic. As the vice president responsible for PBS Online, Johanson's core strategy is using PBS's televised programming to send enough visitors to the 50,000-plus page Web site—and vice versa.

"We've had our television viewership increase since PBS Online launched three years ago, and whenever a PBS program refers viewers to the Web site for more information, traffic spikes on the PBS Web servers," she says. "That shows us that both media have a very powerful way of connecting with viewers."

The site's ultimate goal, of course, is to become self-supporting. So besides tracking how well the two media reinforce each other's success, Johanson applies a handful of other revenue metrics. PBS revenue initiatives include sponsorships (banners and logos), an online store and licensing. Johanson monitors sales of PBS-related products through the site's online store (its revenues doubled in FY 1998) as well as income from PBS sponsors and underwriters. She also keeps an eye on PBS's audience reach via industry reports (from research firms such as Media Metrix) and conducts frequent user surveys to make sure her Web team is meeting visitors' expectations.

### Coping with Flux

Johanson's multifaceted measurement strategy is a good model for others. Site-based data (such as number of visits, sales

volume and purchase requests) is vital. But so is audience-based data. What do users say? Try a survey or focus group. How does your site stack up against competitors? You can find out from research companies such as Media Metrix, Net Ratings and Relevant Knowledge.

"We want to use every tool we can get our hands on to reinforce what we're doing right and show us what we need to be doing differently," Johanson says.

But since the universe of Web measurement is still in flux, there's no set formula. As technology changes, the user base grows; new business goals are defined, and new metrics will be necessary. Site managers have to be ready to react.

"We think the future is going to involve putting a face on the audience," says Tim Meadows, vice president of marketing at NetRatings, an audience research firm in Milpitas, Calif. "You want to be able to say that 30 percent of the people who didn't buy but filled a shopping cart had incomes of \$75,000 or more but that 70 percent of people who did buy had incomes of less than \$75,000. Then you can target your marketing to the right segments."

And those who rely on ad revenue will need to continue to react to advertiser demand for statistics. "Whatever stat an advertiser asks for—how many click-throughs did they get on Fridays between noon and one—we can provide that," says Kirby Winfield, marketing director at Go2net Inc. in Seattle, a network of content sites that derives 85 percent of its revenue from advertising.

The one constant, when it comes to metrics, is a sense of purpose. "The challenge is separating out the stuff that drives your business from all the data," observes AutoVantage's Esterow. "At the end of the day, you have to get back to some basic economic principles: growth and profitability. The Web changes fast, and you have to react quickly; but the fundamental things still apply."

What metrics matter most to you? How have you changed your Web site or Web strategy based on the data they provide? Let me know, and perhaps your experiences can be grist for a future column. **CIO**

*Scott Kirsner is a Boston-based writer and consultant. He can be reached at kirsner@worldnet.att.net.*



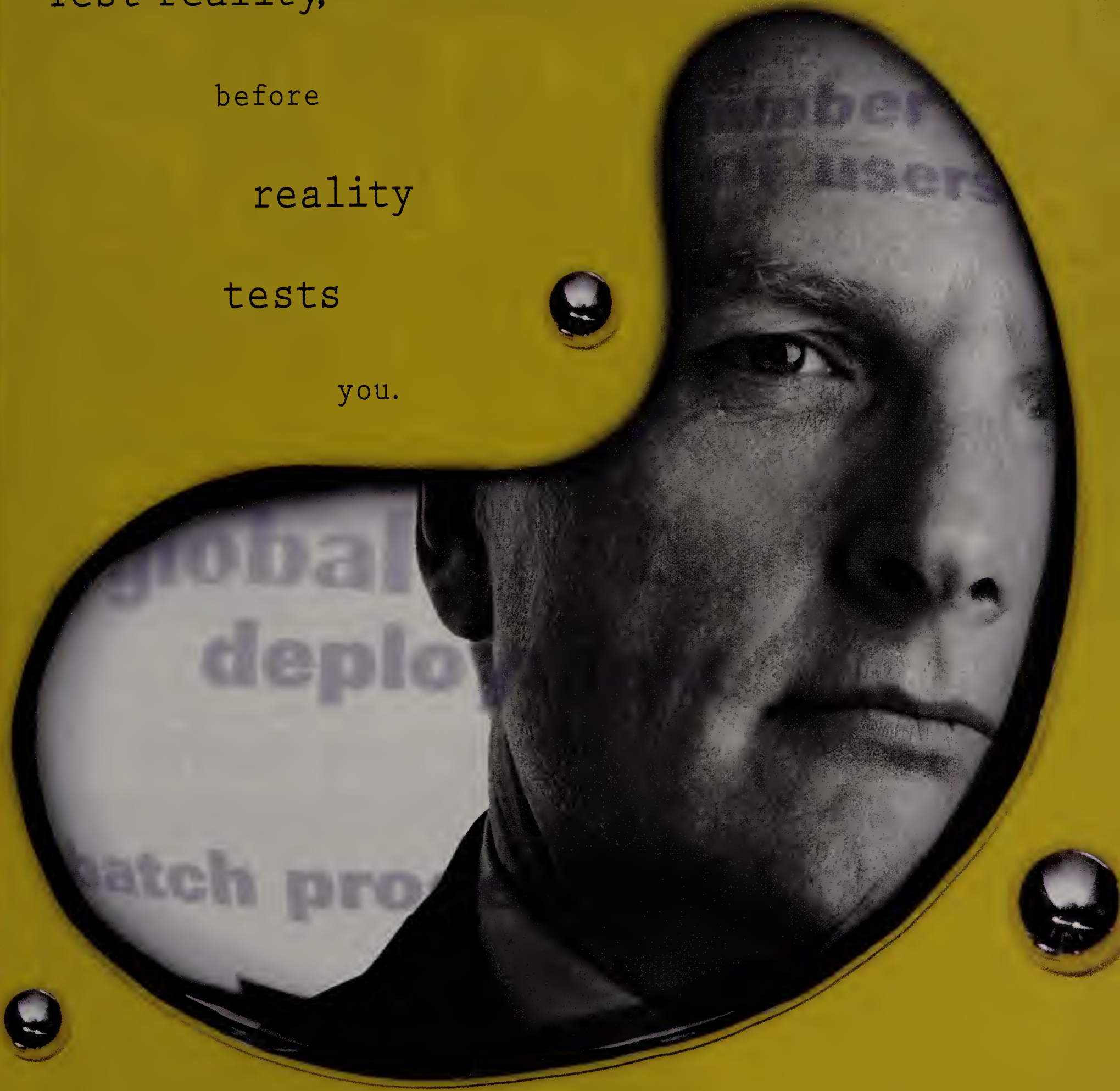
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MERCURY INTERACTIVE



# Legal and Blinding

*The debate about UCC 2B is kicking up so much dust that it's hard to read what the new law really says. It's worth trying.*

WAYNE D. BENNETT

**R**EADING THE COMMENTARY ON THE PROPOSED UNIFORM state law on software licensing (Uniform Commercial Code Article 2B Licenses), I am learning two things: First, big software companies are taking advantage of consumers and small businesses in ways previously unheard of, and second, shrink-wrap licenses (which are endorsed by the proposed law) signal the end of civilization as we know it. Even representatives of E.I. du Pont de Nemours and Co. and other gargantuan companies have formed an alliance to criticize Article 2B. They are rounding up CIOs of every stripe to stop the injustice.

The chief complaint is that these shrink-wrap and click-wrap licenses are simply unfair. Why? The argument is that they are unfair because they allow Microsoft, Symantic and other big licensors to tuck any clause that pleases them into the license, and we're stuck with it. We do not have an opportunity to negotiate these licenses. We don't sign them. We just open the box and poof—we're bound by the contract. Bill Gates could force me to stand on my head and whistle the *Sesame Street* theme song if he puts it into the license. Never mind that billions of dollars of software have been licensed pursuant to shrink-wraps. Shrink-wraps are evil. Shrink-wraps are viewed as breaking new and terrifying ground. Consumers and business licensees, as well as some software consultants, complain that the proposed law favors big licensors. Some members of the entertainment, banking, book publish-

ing and music industries don't like the draft either. Even big software companies do not like parts of the draft. When this many diverse interests start whining in chorus about a proposed law, the drafts-person (in this case, Raymond T. Nimmer) is to be congratulated.

UCC Article 2B is a mountain of paper, some 200 plus pages, including Nimmer's commentary, which explains the relationship of each provision to existing law. Article 2B establishes the rules of information contracting in much the same way that UCC Article 2 Sales establishes the rules for sales of goods. Article 2 has been around for decades and it has been a boon to sales of goods because it provides a measure of certainty concerning goods contracts. But while goods are generally sold, information is generally licensed. Article 2 cannot be neatly applied to licenses because it was not designed to apply to licenses. Courts have floundered, often ineptly, trying to apply Article 2 by anal-



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# PeopleSoft

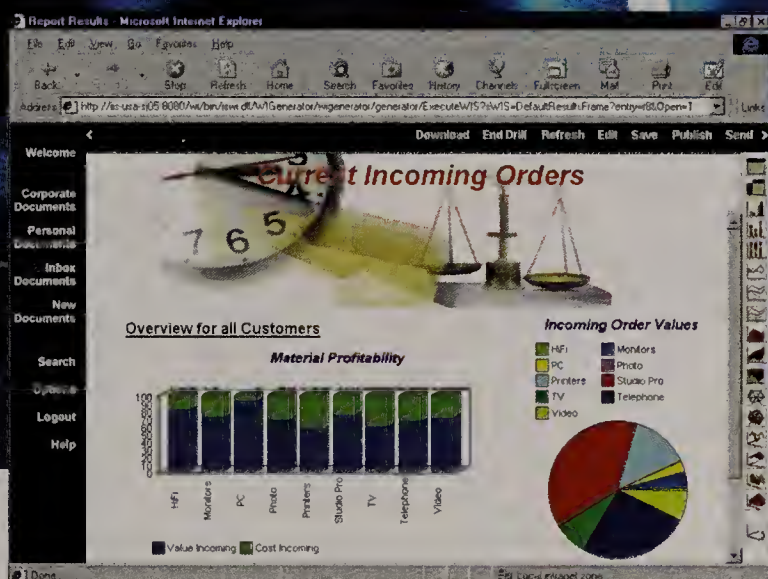
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SAP

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ogy. So an effort began several years ago to create a law that would do for the licensing of information what Article 2 does for the sale of goods.

For the most part, both Article 2 and proposed 2B provide gap-filler rules so that if a seller and buyer (or a licensor and licensee) omit a term in their contract, the courts can look to the Articles to fill in the blanks.

The UCC promotes a concept known as "freedom of contract" and contains very few absolute prohibitions. Most gap-fillers can be overridden by the parties simply by expressly agreeing to a different contract term. Many have argued that freedom of contract is a euphemistic way to cede even more power to the big manufacturers and the big licensors. But the UCC does not purport to be a consumer protection statute nor a business protection statute. When Congress wants to protect consumers, it passes federal legislation that limits freedom of contract. Thus, when you buy a washing machine, the warranty disclaimer is followed by a statement to the effect that the disclaimer may not apply to your purchase. The disclaimer may be effective under state contract law (Article 2) against business purchasers, but federal consumer protection law provides some overriding protections for consumers.

It would be easy, here, for me to present my interpretation of the draft, as so many others are doing. Instead, I will recommend something novel in today's world of opinion polls based upon opinionated hearsay: Try reading the draft. You can find the draft at [www.law.upenn.edu/bllulcucc2/2b498.htm](http://www.law.upenn.edu/bllulcucc2/2b498.htm). To put the draft in its proper context, you may want to glance at the rest of the UCC so that you can understand what the UCC tries to accomplish and, as important, what it is not trying to accomplish. The UCC Articles 1-9 is at [www.law.cornell.edu:80/ucc/ucc.table.html](http://www.law.cornell.edu:80/ucc/ucc.table.html). Once you have familiarized yourself with 2B and have had a chance to draw some of your own conclusions, savor a sample of the diverse opinions about the draft at Carol A. Kunze's excellent Web site, [www.webcom.com/software/issues/guide/index.html](http://www.webcom.com/software/issues/guide/index.html).

Why should a busy person like yourself take the time to do something that you could pay a lawyer to do? Because it will help you do your job better. You

are a CIO or your career path includes becoming a CIO or you regularly interact with CIOs. Make no mistake: Article 2B will affect you. Software implementations fail or come in late or over budget with regularity. Most CIOs search for ways to limit their risk, of both cost

## Too often, the CIO role in licensing transactions has been technical, while the CFO and the lawyers take the lead.

and hassle. Too often, the CIO role in software licensing transactions has been technical and administrative, while the CFO and the lawyers take the lead. Too bad, really. The contract terms are as much a part of what you are buying as the software features.

Consider a contract that has a well-specified acceptance procedure, a solid warranty, as well as liquidated damages for late or nonconforming deliveries, and warranty breaches and newer features, such as balanced scorecards with which you can provide feedback to your vendor that the vendor is contractually bound to take to heart. Another contract lacks these features. Which implementation is likely to go more smoothly? If a problem arises (and it will), which contract is likely to give you the leverage you need to attract your vendor's undivided attention? Contracts are nothing more nor less than risk allocation documents. Do you really want to let your CFO and lawyers relegate you to choosing the technically superior vendor and developing the statement of work? Would you rather have, for example, a slightly less than perfect product successfully implemented or a perfectly specified product that does not get implemented? If the project fails in six months, it is not likely the CFO or your lawyer will be the scapegoat looking for a new job.

Despite the clamor for new business and legal paradigms driven by the new age of computing and the Web, Article 2B is not intended to upset the prevailing business principle of negotiation leverage. When you have leverage in the transaction, you can insist upon terms that are favorable to you. When do you have leverage? You have leverage when the vendor is facing stiff competition you can turn

to. You have leverage when the vendor needs you as a reference account. You know the drill. So it should not surprise you when big software vendors play by the very same rules. To a large extent, the future of your leverage is determined by your own decisions. If CIOs insist upon

lemming-like behavior (I'm buying Microsoft because it's a safe choice), we will empower the biggest vendors, and we will lose leverage in all future transactions.

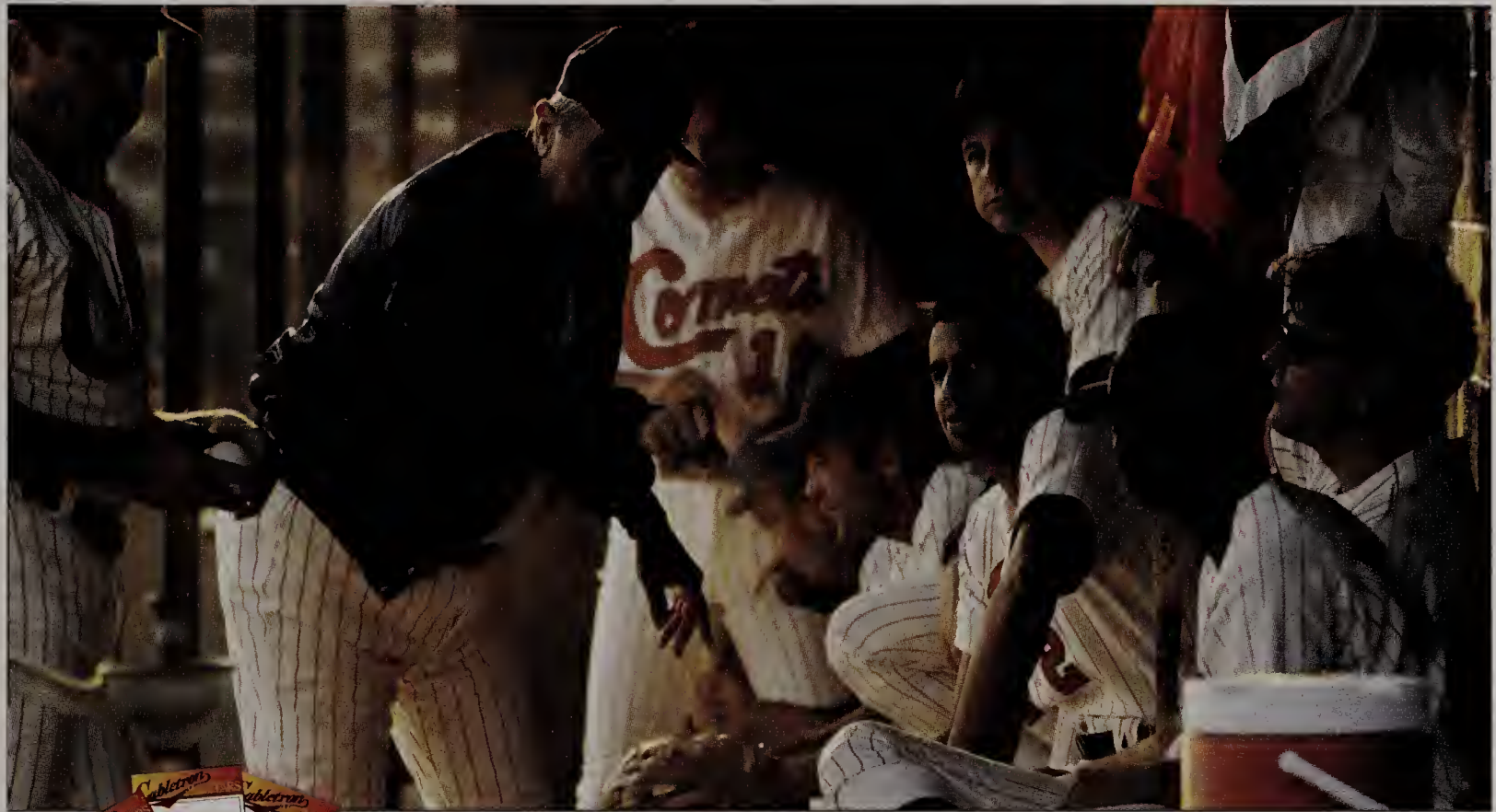
Oh yeah—those pesky shrink-wrap licenses. Let's see. I usually don't get to see the warranty on a washing machine until I unpack the machine at home. And if I represent a business buyer, I don't have the benefit of those nifty consumer protection laws. Why should shrink-wraps be different? The 2B draft provides that if I don't agree with the terms, I can return the software for a full refund (plus costs, if it is costly to accomplish the return). And by the way, when your company issues purchase orders to your vendors with the microscopic print on the back requiring your vendor to stand on its head and whistle the theme to *Sesame Street*, should those be invalid, too? And when your company sells goods, does it include similar warranty disclaimers? For those who think that software vendors have broken new ground by creating grossly unfair shrink-wrap agreements, I invite you to compare a Microsoft (or other big vendor) shrink-wrap to any contract for the sale of goods (say, for example, a DuPont contract).

There is still time to become involved. UCC 2B drafting meetings are open to the public (the schedule is at Kunze's site). But however this turns out, it pays for you to get more involved in contract negotiations—to understand how the terms of your software contracts affect your operations every bit as much as the features you select. **CIO**

Wayne D. Bennett is a partner at the Boston law firm of Bingham Dana LLP. He can be reached at [bennettw@bingham.com](mailto:bennettw@bingham.com).



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DATA

BY SARI KALIN



**IF** YOU'RE TOURING THE MIDDLE EAST AND YOU POINT YOUR CAMERA at a Bedouin atop a camel, don't be surprised if he poses proudly and then demands that you give him a few coins for his efforts. If you're visiting Cape Cod and you snap a shot of a child playing in the sand, don't be surprised if his nervous parents shoo you away. And if you're outside a swank Manhattan nightclub training your camera on a movie hunk of the moment, don't be surprised if he rips the darn thing out of your hands and busts it on the pavement.



**DIFFERENT PEOPLE HAVE DIFFERENT IDEAS ABOUT PERSONAL PRIVACY AND** how far they will go to protect it. It's the same story on the Web. Many surfers will gladly give up their name, age and ZIP code and detail their interests in return for a free e-mail account. Others use anonymous remailers or set their browsers to reject the cookies that track their travels on the Web. One thing there is little disagreement about among Web surfers, however, is the importance of knowing what information is gathered and how it will be used. A recent study showed that 96 percent of Net purchasers surveyed believe it's important for commercial sites to post privacy policies about how their personal information will be used. The April survey, sponsored by Hackensack, N.J.-based think tank Privacy & American Business and Price Waterhouse LLP

(now known as PricewaterhouseCoopers), also found that assurance of improved privacy protection was the leading factor that would help persuade Net-shy consumers to log on.

#### Reader ROI

IN THIS STORY, READERS WILL learn

- Why every Web site should post a privacy policy
- What privacy activists are demanding
- What elements are essential to any privacy policy



Why are consumers concerned about Web privacy? For the same reason that the Web is a marketer's dream medium: the vast amount of information Web sites can collect on consumer tastes. A virtual store can track where customers come from, how long they stay and what they

sumers' data would be used internally or shared with third parties, and only 2 percent of those that collect personal information had detailed privacy policies posted. Some 54 percent of the 212 children's sites surveyed gave some information on what they did with children's data, but only a

model is built around four basic fair information practices: Give consumers notice of what information is collected and how it is used; let consumers choose whether to allow secondary uses of information (for example, to decide whether their name can be used for follow-up marketing from the company or be sold to a third party); give consumers "reasonable access" to their information and let them correct any errors; and ensure the information's security. To give the private sector an incentive, industries that adopt their own privacy protection and enforcement mechanisms would be given a "safe harbor from any enforcement actions under the new statute" as long as those protections meet the law's standards.

On its face, the FTC's proposal pushes the same fair information practices that Net industry groups themselves claim to back. Yet those groups are wary of legislation that would regulate the fast-moving online world, particularly when terms like "reasonable access" to data could be open for interpretation and perhaps technologically difficult to deliver. "What you wind up doing with a law is burden the good guys," says Connie LaMotta, senior vice president of public relations and communications for the Direct Marketing Association in New York City, a trade group that has been pushing its members to adopt privacy policies. "Legitimate businesses and the leaders out there are doing the right thing, and those that are the entrepreneurs, the smaller businesses, they need education."

Even without new laws on the books, the FTC has made it clear it will go after companies that mislead consumers. The commission recently claimed that GeoCities, a Santa Monica, Calif.-based company that runs a 2 million-plus member community Web site, misrepresented why it was collecting personal identifiable information from its members. GeoCities disagreed with the FTC, saying that it believed it made it clear how members' registration information could be used. To settle the case, however, the company agreed to stringent new privacy practices that it implemented before a proposed con-

**“Without** some legal incentive in place, there are just too many players out there that are not developing privacy policies.”

—Marc Rotenberg

browse, even if they do not purchase a thing—something that would be difficult to do in a brick-and-mortar store. Customer information gleaned from a Web site can be used to improve a product, to personalize the Web site for each visitor or, in aggregate, to lure advertisers; it can also be sold to third parties eager to market directly to Web users. And this new ease of information collection can make consumers uneasy, says Mary J. Culnan, associate professor in the School of Business at Georgetown University in Washington, D.C. "People are balking at giving their information on the Web in a lot of cases because the organization has not made a good case for why they should," Culnan says. "If there are no benefits or if they aren't told why the information is being collected or how it's being used, a lot of people say, 'Forget it.'"

Judging from the Federal Trade Commission's (FTC) survey of 1,402 commercial Web sites last March, consumers have a right to be uneasy. More than 85 percent of Web sites surveyed culled consumers' personal data, including names, e-mail addresses, hobbies, financial details or Social Security numbers. Of the 674 general commercial sites surveyed, only 14 percent revealed how con-

sumers' data would be used internally or shared with third parties, and only 2 percent of those that collect personal information had detailed privacy policies posted. Some 54 percent of the 212 children's sites surveyed gave some information on what they did with children's data, but only a

## Keeping an Eye on the Regulators

THE FTC HAS RECOMMENDED LEGISLATION requiring child-oriented commercial Web sites to gain parental consent before collecting any information from kids; at this writing, a children's online privacy law is pending in the Senate. The FTC has also put all consumer Web sites on notice: If privacy protections are not more widespread by year's end, government regulation to protect Web privacy at all consumer-oriented commercial sites will be needed. The Clinton administration has supported privacy legislation to protect children; at this writing, however, it was still pushing for industry to take voluntary steps to protect consumer privacy on the Web overall.

The FTC's proposed legislative



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sent order was issued in August, including the following: barring collection and use of personal information about GeoCities' members by third parties; inserting its privacy notice in more places on its Web site and emphasizing the notice on members' application forms; requiring children to get parental consent when they apply for a membership; and strengthening community leader training. FTC staff attorney Dean Forbes says other companies can look to the consent order to get an idea of what the agency is looking for in terms of Web privacy protections.

Meanwhile, the European Union's strict Data Privacy Directive takes effect Oct. 24, 1998. The directive requires EU members to pass laws barring the transfer of data to countries that do not have adequate privacy protections in place. Enforcement outside Europe will be difficult, concedes Gerard de Graaf, first secretary, delegation of the European Commission to the United States, in Washington, D.C. But if a Web site in the United States (or other non-European country) that collects data from European citizens were to fall seriously afoul of European privacy laws, "it would not be totally unimaginable that Europe would take steps to close the operations of that Web site down in Europe," de Graaf says. "Europe is not going to sit by idly."

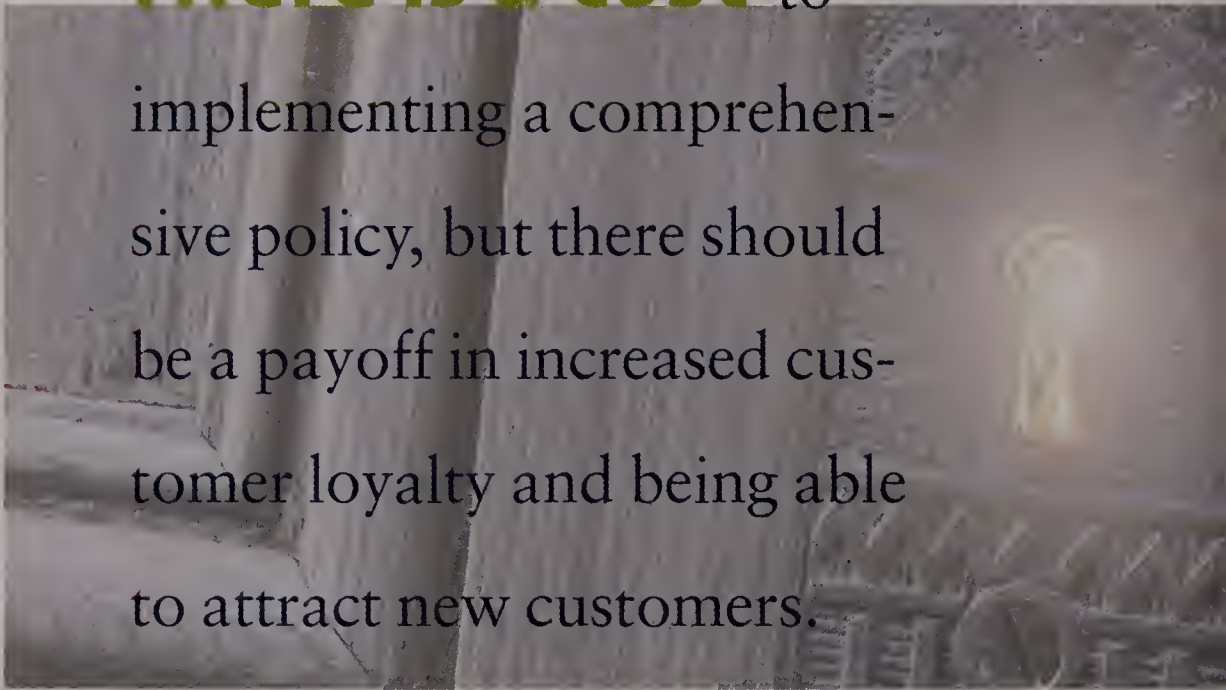
### Staying Ahead of the Regulators

SEVERAL NET INDUSTRY GROUPS hoping to avoid governmental regulation have been stepping up efforts to urge companies to voluntarily develop Web privacy policies. They include Truste Inc. in Palo Alto, Calif., a nonprofit industry organization, and The Better Business Bureau's online arm, BBB Online in Arlington, Va. Truste reviews its licensees' privacy policies to make sure they cover all of the information their sites collect. Licensees get a "seal" they can put on their home page; to make sure the sites live up to their privacy promises, Truste "seeds" licensees' sites with names every quarter and

traces whether they are improperly used. Consumers can complain to Truste if they believe a Truste licensee has violated its privacy policy; Truste's executive director, Susan Scott, says it has resolved 90 percent of such complaints within seven days. Truste's biggest challenge now is to sign up more licensees; at this writing, it had roughly 185. It is also working to add choice, access and security measures to its guidelines, to comply with the FTC's recommendations. BBB Online is developing a rival privacy seal program. The group plans to set standards for privacy policies and develop a self-assessment process to determine

lines: Have and implement a privacy policy that gives consumers notice, choice, ability to correct inaccurate data, data security and that gets parental consent before collecting or reselling personally identifiable information from children under the age of 13. The OPA has also spelled out an enforcement mechanism that would rely on third-party programs (such as Truste and BBB Online, or membership organizations) to verify and monitor compliance, resolve consumer complaints and educate consumers and businesses.

The administration has said it will watch the OPA's efforts to see whether



**There is a cost** to implementing a comprehensive policy, but there should be a payoff in increased customer loyalty and being able to attract new customers.

whether companies qualify for a seal; it will also develop a consumer dispute resolution mechanism and work on consumer education. BBB Online already has more than 1,600 members in its general online seal program, which sets standards and resolves disputes over online advertising and advertising to children.

The Online Privacy Alliance (OPA) in Washington, D.C., is the latest industry coalition to lead the self-regulatory charge, backed by more than 50 global businesses, Net industry vendors and trade associations including The Walt Disney Co., The Procter & Gamble Co., Time Warner Telecom, IBM Corp. and the DMA. Launched in June, the OPA has developed broad Web privacy guide-

it develops a broad-enough base of support. At least one privacy activist, however, doubts self-regulation will work. "Without some legal incentive in place, there are just too many players out there that are not developing privacy policies," says Marc Rotenberg, executive director of the Electronic Privacy Information Center in Washington, D.C.

### Staying out of Trouble

IF YOUR COMPANY DOES NOT YET have a Web privacy policy, looking at the privacy notices on sites with exemplary policies—Disney ([www.disney.com](http://www.disney.com)) is one often cited as such—can



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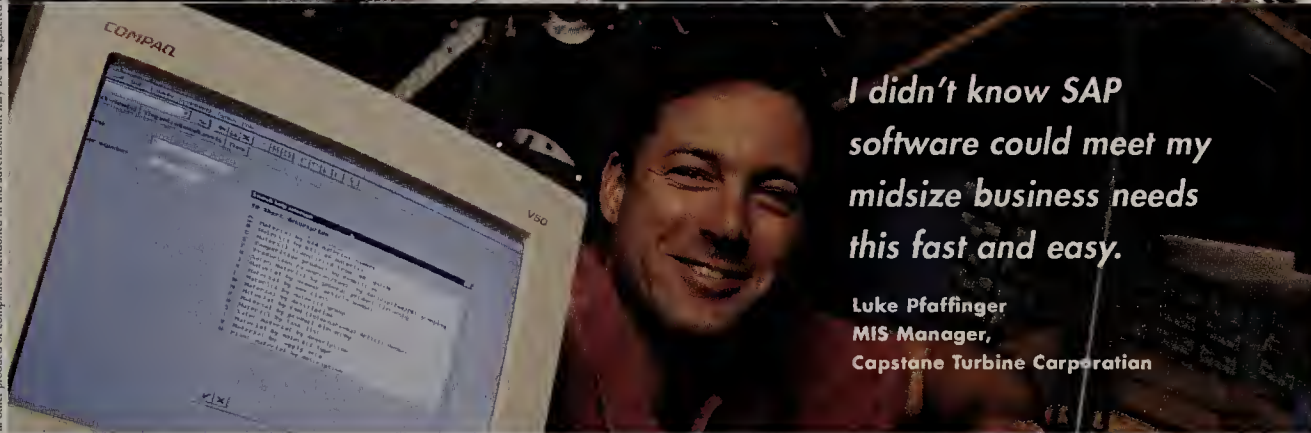
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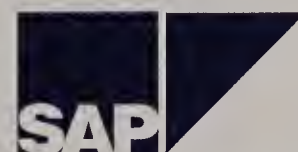
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give you an idea of the state of the art. The OPA's Web site, *www.privacyalliance.org*, posts the full version of its guidelines. The Direct Marketing Association's Web site, *www.thedma.org*, lists guidelines for developing an online privacy policy; fill out a questionnaire about your company's privacy practices, and the site will create an online privacy notification statement to post on your company's home page. Truste also has a "privacy policy wizard" at *www.truste.org*.

Even with these tools, there's more to developing a Web privacy policy than posting a statement on a home page, Georgetown's Culnan notes. A company's privacy commitment must come from the top down, with a

CEO, CIO or other top executive as champion. Privacy practices should be detailed in new employee orientation, and employees must be periodically reminded, lest they do what some businesses fear, Culnan says: Slip up, run afoul of the posted policy and wind up with the FTC dogging them over deceptive advertising practices. Organizations may want to use auditing tools to keep track of what information employees view, or they may want to change their systems so that employees can see only information they need for their jobs. Privacy should also be part of the business case whenever they consider a new Web application, since it is harder to add it in after the fact. There is a cost

to implementing a comprehensive policy, Culnan notes, but there should be a payoff in increased customer loyalty and being able to attract new customers.

With a champion in place, a company's next step should be to get a handle on all the types of information it collects from its Web site—cookies, credit card numbers, e-mail addresses, visitation patterns—and determine who has access to it and how it is used (see "Full Disclosure: How to Know What Your Online Privacy Policy Should Reveal," this page). For a large global organization, that isn't easy. The McGraw-Hill Co. in New York City, for example, runs more than 80 Web sites, ranging from S&P

## Full Disclosure

### *How to Know What Your Online Privacy Policy Should Reveal*

**1 Check with your Web site operator:** What information do you gather from your site? Do you use cookies? What about your advertisers?

**2 What do you use the information for?** Internal marketing? Mailing lists? Third-party advertising? Demographics to help design your site better? Do you use it at all?

**3 Do you have registration forms?** Feedback forms that ask for any personal information (even an e-mail address)? Discussion groups? Chat rooms? Sweepstakes or contests? Can people buy things at your site? Apply for free offers? Customize the way your site appears to their browser? Join mailing lists? If so, what information do you collect and what use is it put to?

**4 Do lots of kids visit your site?** What information do you collect from them? What do you do with that information? Are there certain places at your site that you believe draw most of the child traffic, while adult traffic gravitates to other areas? What do you tell children at your site about supplying information?

**5 Do you have advertisements or promotional information about products at your site?** Are they readily identifiable as ads or promotional materials? Do you post reviews of products that are really promotional materials?

**6 Do you have a procedure where site visitors can find out what information you have gathered about them?** Do you have a mechanism that allows

them to correct any incorrect information? Do you have a procedure that allows visitors to "opt out" from receiving promotional material or having their information used for any marketing purposes?

**7 Do you disclose any information about your information collection and use at the site?** Where is it located? Is it deeply buried within your "legal stuff"? Do you reserve the right to use information provided to you for any reason whatsoever? Have your online producers reviewed your legal disclaimers and made them more "user-friendly"? Does your disclosure still match your information collection practices? Have you added cookies since the information collection policy was posted? Have you started using the information differently?

**8 If you have mailing lists, have you made it easy for people to unsubscribe from those lists?**

**9 How do you store this information?** Do you retain outside companies to help you organize and manage the information or compile mailing lists? How secure is this information?

**10 Do you really need all the information you are collecting?** Do you use it efficiently? If not, why are you collecting it?

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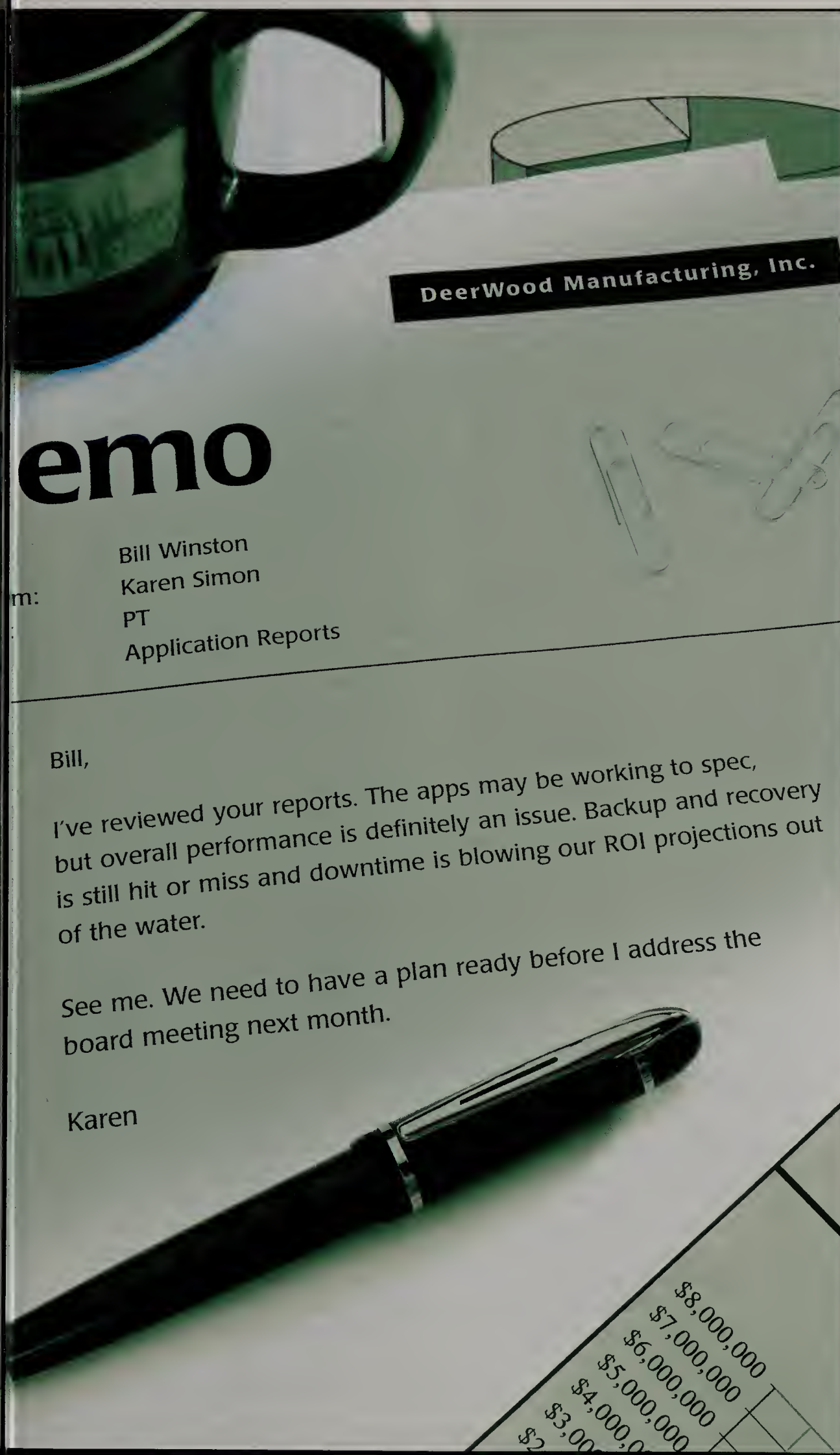
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\$6,000,000  
\$5,000,000  
\$4,000,000  
\$3,000,000  
\$2,000,000



Personal Wealth, a customizable financial information site targeted at investors, to Fledge, an education site targeted at children ages 10 and up. It took a task force with representatives from various business units and business functions nine months to develop a privacy policy, says Lisa Pavlock, McGraw-Hill's senior manager for Washington affairs.

McGraw-Hill developed a blanket privacy policy, to which all of its Web sites link, Pavlock says. The policy, which went live in 1997, explains what data is shared within the company and what is rented to outsiders

which is not enough information to search McGraw-Hill's customer databases. What's the company's solution? "We're developing a standardized set of information so that whenever someone says, 'I don't want to be solicited,' we can do that," Pavlock says.

Kodak.com in Rochester, N.Y., Eastman Kodak's Web site, faced different implementation issues, given that it allows users of Kodak digital cameras to register via the Web site. Legally, Kodak must keep the names of registrants on file, in case it has to contact them about a product defect.

who bought a high-end digital camera within the last three months); the system will then automatically send out the mail job without the need for the marketers to handle individual names and e-mail addresses. The company is holding off on targeting children on its Web site, O'Brien says, until it can get a better handle on what regulators will require.

Kodak is a member of both the OPA and BBB Online. McGraw-Hill does not belong to any of the third-party privacy seal programs. Instead it uses an outside accounting firm to conduct its privacy audit; consumers can resolve privacy disputes through the company's privacy officials and steering committee. Even though their approaches differ, both McGraw-Hill and Kodak say only a very small percentage of consumers have chosen to opt out of inclusion in the companies' mailing lists. "A large reason for that is we're telling them what we're doing," McGraw-Hill's Pavlock says. "We've eliminated that mystique of, 'I've given them all this information about myself and I have no idea what's going to happen.'"

Will companies that take actions like McGraw-Hill and Kodak be able to keep consumers happy? The Privacy & American Business/Pricewaterhouse survey seems to indicate that they will: Some 90 percent of Net purchasers surveyed said they would have increased confidence in a Web site that listed a company official on the Web site who would receive and respond to privacy violation complaints from consumers. Similar numbers would feel more confident about companies that conducted privacy policy training for all personnel and about companies that had an official audit of their privacy performance and report the results publicly. But the jury is still out on whether industry as a whole can clean up its act enough to satisfy the regulators by the end of this year. Truste's Scott, for one, hopes it can—and says it must. "Last year, industry was just hoping that it was the issue of the day and it would go away," Scott says. "But it's not [going away]." **CIO**

Senior Writer Sari Kalin can be reached at [skalin@cio.com](mailto:skalin@cio.com).

**Some 90 percent** of Net purchasers said they would have increased confidence in a Web site that listed a company official on the Web site who would respond to privacy violation complaints.

(sensitive data—such as medical or financial information, or information on children—is never distributed to third parties), as well as how customers can opt out of such sharing. Consumers can also opt out at or near the point of data collection.

Each McGraw-Hill business unit designated a privacy official to ensure the unit's privacy practices meet corporate standards and to oversee mailing list opt-out management. The company also has a steering committee in place to help it deal with issues that come up now that the policy is live. One unanticipated wrinkle was that when consumers e-mailed McGraw-Hill to request removal from a mailing list, they would sometimes provide only their e-mail address—

So the company had to make sure that when buyers asked to have their name removed from a mailing list that their name still stayed on the registration list, says Marianna O'Brien, business development manager at Kodak.com. Credit card numbers kept on file from the online store are also secured separately from mailing list information. Kodak's online group controls Web-collected names. Any Kodak group that wants to use those names for a mailing has to go through the online group. Kodak will unveil a Web site registration and loyalty program this fall. The new e-mail marketing tool, which was launched in August, lets in-house marketers fill out a form with a desired e-mail message and select a target audience (for example, people





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**Sunny Forecast:** Mike Caray, senior vice president of new media at The Weather Channel, knew that weather on demand was a natural for the Web.



# Something OLD, Something NEW

TV is marrying the Web for two good business reasons: to extend brand and because it has no choice.

## Reader ROI

IN THIS STORY, READERS will learn

- ▶ Why some partnerships are more likely to work than others
- ▶ Why big media players are embracing portal strategies
- ▶ How small media companies are getting into the partnership act

**5** years ago, when their trend-spotting antennae first picked up signals from the approaching Internet, most TV brass—local and national, cable

and broadcast—dismissed it as no serious threat to audiences or ad dollars. What could this global network of computers ever have to do with who's watching or buying ad time on *Frasier*, *60 Minutes*, The Weather Channel, ESPN or the local evening news?

The answer, as they have since realized, is "a great deal." In the past couple of years, the Internet and television have meshed at multiple

points, creating a web of strategic relationships. For the network giants, the partnerships are intended to extend their brands and grab a piece of online ad revenues that, according to Jupiter Communications LLC, are projected to grow from less than \$2 billion this year to about \$7.7 billion by 2002. Some may also sell products and services online. For Web compa-

BY ANNE STUART



## STRATEGIC PARTNERSHIPS

nies, they offer big media's brand-building and promotion power, and big media style cash.

"Any Internet company that really wants to get to that next level to compete with the major branded players in this space [like Yahoo] really needs traditional media exposure," says Patrick Keane, an analyst at Jupiter, a New York City-based Internet research firm. In fact, TV connections have fueled the rise of some of the Web's most-trafficked sites, such as ESPN SportsZone, CBS SportsLine, CNN Interactive and MSNBC. In the past year, the industries' mutual interest has escalated into a series of warp-speed mating dances, with some of TV's most venerable players pairing up with Internet newcomers to form new alliances, partnerships and joint ventures, in addition to a dizzying, complex series of sales, mergers and takeovers (see "Program Guide" below).

Jerry Spiegel, an attorney specializing in new-media law who has represented Time Warner Inc. and several networks in TV-Internet deals, says TV people tuned

in to the Web after recognizing some important parallels between the old and emerging technologies. "It appears on what looks like a television screen. It is brought into the home and displayed on the same kind of device," says Spiegel, head of the New-Media Practice Group at the New York City law firm of Frankfurt, Garbus, Klein & Selz. In addition, Internet advertising "has developed along the lines of television, where sponsors pay for programming," Spiegel says, adding that the online ad-selling process borrows heavily from the traditional practices for selling TV commercials.

Spiegel says he spends 90 to 95 percent of his time on new-media deals, up from 30 or 40 percent at the beginning of this decade. At the same time, he acknowledges that some of those hottest to pair off can't explain why: "They don't always know." At this point, he and others say, the dealing is largely defensive, based on faith that they will eventually see returns from ad revenues, sponsorships or electronic commerce.

What does TV have that the Web wants? High-quality audio and video. "That's their currency," says consultant Peter M. Zollman, a principal of Advanced Interactive Media Group LLC in Altamonte Springs, Fla. "That's been something that's not really available on the Net, although, of course, that's starting to change." Also driving the strange marriages of old and new media is evidence that TV itself is past prime time. In August, Nielsen Media Research reported that households with Internet access watch TV 15 percent less than households without Internet access. "They understand they can't stop progress, so they figure they might as well extend their brand to it," says Mark Thalheimer, director of the News in the Next Century Project at the Radio and Television News Directors Foundation in Washington, D.C. NBC did that by maintaining its broadcast foothold while partnering with Microsoft Corp. to create a cable venture (MSNBC) and an Internet news Web site (MSNBC.com). And Ted Turner's Cable News Network Inc. is all over the Internet, on CNN Interactive, the CNNfn financial news site and other branded locations.

Establishing, protecting and promoting brands is more important online than on the airwaves, analysts say. "On the Internet, you don't have a dial that you can brand with your name or your number. It's not hard-wired like it is on a TV set," Spiegel says. "Today there are millions, maybe tens of millions of Web sites, but people are aware of only maybe a dozen: Yahoo and SportsLine and ESPN and Amazon." Whether they are defensive arrangements or they hope to make money, the trick is achieving icon status. Going into it with a well-known partner can help. Finally, TV and Internet



### Program Guide

*So many deals, so little time*

#### July 1996

NBC partners with Microsoft Corp. to create the MSNBC cable channel and companion news site MSNBC.com to compete with CNN and CNN.com. Companies commit to spending \$500 million on the venture over the next five years. Meanwhile, the deal gets Microsoft on TV and NBC onto the Net.

#### March 1997

CBS cuts a deal with Web site SportsLine. Web company gets promotional announcements during CBS sports programming; CBS gets 50 percent of revenue from SportsLine content tied to CBS-covered events and 3 million shares of stock.

#### April 1998

Walt Disney, minority owner in new-media creator Starwave Corp., exercises option to acquire the rest of the company from founder Paul Allen. (Through its own joint ventures, Starwave creates content for and produces ABCnews.com, ESPN SportsZone and other new-media sites.)

#### June 1998

Walt Disney buys 43 percent of search-engine Infoseek, which attracts more than 13 million visitors per month. As part of the agreement, Disney trades Starwave to Infoseek. Value: \$475 million.

#### June 1998

NBC buys a 19 percent share of Snap, a news and entertainment Web site created by CNET, the Computer Network. The deal allows NBC's share to rise to 60 percent in the future; NBC also buys 5 percent of CNET. Value: about \$64 million.





**Popularity Counts:** *Reid Johnson, IBS cofounder, says many users have bookmarked his sites as their home pages.*

executives both thrive on cutting splashy, high-stakes, groundbreaking deals.

Netscape Communications Corp. cofounder Marc Andreessen sums it up: "The next big media networks are being built on the Internet in real-time."

TV's rush to the Web makes sense in the wake of a Federal Communications Commission's mandate that broadcasters switch from analog signals to digital ones by 2006. The change, which will create sharper, clearer pictures, will also let TV companies reach more viewers because they can replace a single analog channel with several digital ones, offering more programming options.

"Networks don't know yet what they're going to do with that extra bandwidth," Keane says. "They see the Web as a bridge to the forefront."

**B**ig deals Big media like NBC have launched or are building portals, those Web sites that hope to become major points of entry for Web users.

The goal is to be the next Yahoo, or at least to cut into Yahoo's monthly tally of more than 31 million visitors—

by far the Web's highest. To lure that critical user mass, portal contenders stuff their sites with what they hope will be just the right mix of free services to attract the masses: news, sports, weather, e-mail, online games, stock reports, automated reminder services and more. And they partner furiously with whomever offers what they need.

Such was the case with NBC and Snap, the Web directory and guide service created by CNET Inc., the Computer Network. Although praised for its technical sophistication

**"SportsLine would have died without partnering with a major media company, as they did with CBS."** —Patrick Keane

and comprehensive content, Snap was a major-league money pit for CNET, which reportedly spent \$25 million to launch the service in September 1997; earlier this year, Snap took a \$3.7 million first-quarter loss on revenues of \$906,000. In June, NBC stepped in, buying 19 percent of Snap for just under \$6 million; the network expects to pay \$32 million to

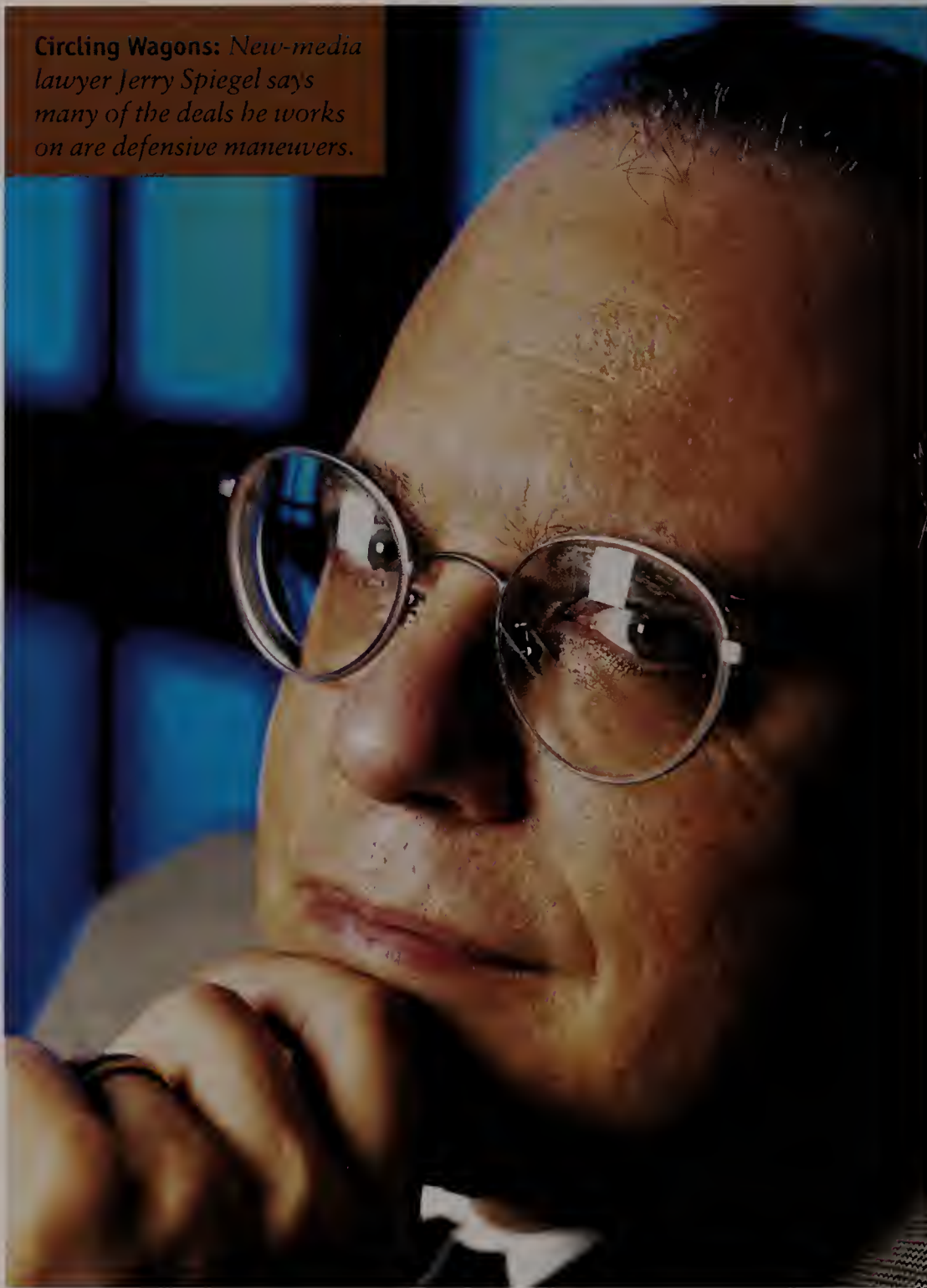


## STRATEGIC PARTNERSHIPS

increase its stake in the portal to a total of 60 percent within three years. Under the agreement, NBC also bought 5 percent of CNET for \$26 million, an announcement that caused CNET's stock to jump 45 percent, to \$48 a share, in the first week after the deal's announcement. Both sides say both sides win in this deal. Snap provides NBC with a ready-made portal that already has 2 million regular users. The network offers money, relentless promotion of Snap to nearly 80 million regular viewers and the imprimatur of one of America's best-known brands.

Other networks do deals without the portal-construction pressure. Among the standard-setters is CBS Worldwide Inc.'s March 1997 agreement with SportsLine USA, a sports Web site. Both partners benefit: The Web site puts the letters "CBS" in front of its name and gets widespread promotion on CBS sports programming. CBS gets 3 million shares of SportsLine USA Inc.'s stock during the five-year deal as well as at least 50 percent of revenue from SportsLine content tied to CBS-covered events. The network expended relatively little effort on the transaction—"CBS went with the strategy of buy rather than build," Keane says—and kept SportsLine from turning into a footnote in Web history. "The business would have died without partnering with a major media company, as they did with CBS," Keane says.

**Circling Wagons:** *New-media lawyer Jerry Spiegel says many of the deals he works on are defensive maneuvers.*



**Many deals, like those of The Weather Channel, steer clear of offering anything close to exclusivity, and no deal guarantees a payoff.**

The Weather Channel, a natural for an online presence, has fruitfully extended its 16-year-old all-weather-all-the-time approach from cable TV to the Web. "Who else does weather in a video format on a dedicated basis 24 hours

a day?" asks Mike Carey, senior vice president of new media at The Weather Channel Enterprises Inc. "We were already thinking 'weather on demand.'"

Weather.com drifts all over the Web through deals that provide content to CompuServe, MCI's Web site, RealNetworks' customized news service, @Home, MediaOne Express, MindSpring, WebTV, WorldGate and BellSouth.net. (The Weather Channel was among this year's CIO Web Business 50/50 winners; see CIO Section 2, July 1, 1998, for details.)

Many deals, like those of The Weather Channel, steer clear of offering anything close to exclusivity, and no deal guarantees a payoff. Says Spiegel: "The one thing few of them expect to get out of it all is money"—at least for now.

Asked to name any big TV-Web ventures that have





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flopped, or are likely to do so, Jupiter's Keane thought it over and replied: "I really can't think of any."

Keane and many other analysts say that it's simply too early to make any predictions. "It's not even clear yet that this is right," Spiegel says. "It may be that in six months, people are talking about this as ancient history, saying, 'Of course it doesn't work, and how could you have ever been so foolish to think that it would have?'"

**Little deals** In the beginning, local TV stations were also reluctant to let go of that conventional wisdom regarding the Web. "If you had told a local television station five years ago that it would be involved in a partnership or joint venture with a competitive local newspaper, they would have called out the men in the white coats," says consultant Zollman. Now, while many TV stations still use their Web sites primarily as electronic billboards promoting their anchor teams, a few have formed strategic alliances allowing them to offer new services.

Among the examples is a special hurricane site ([www.ncstormtrack.com](http://www.ncstormtrack.com)) developed as a partnership between WRAL-TV of Raleigh-Durham, N.C., and the local newspaper, *The News & Observer*. The two already had strong Web presences as WRAL Online and *The News & Observer* spinoff Nando.net. The North Carolina partners timed their joint venture's launch for the start of the 1997 hurricane season, leading up to its debut by distributing a hurricane tracking map with the Sunday newspaper, running a 30-minute hurricane special on TV, and doing joint print and broadcast promo spots. The newspaper hosted the hurricane site on one of its servers, but the parties agreed on a unique name and address so that neither would take credit for its hits. Both companies provided technical support; each sold two \$5,000 hurricane-site sponsorships. The project was successful enough to have spawned two similar ventures: a site to cover the area's high school athletic teams and a new bulletin-board site for community groups.

Elsewhere, the Internet Broadcasting System Inc., an Internet development business that evolved from a Web-development project at WCCO-TV in Minneapolis, is working with several local TV stations to create local portals. IBS has developed and manages interactive online news services in its hometown as well as in Los Angeles, Cleveland, Portland, Ore., and Madison, Wis. Each employs journalists who frequently update the sites' local news, weather,

sports and business.

"In Los Angeles, they're getting to be experts on Monica Lewinsky-chasing," says IBS Marketing Director Andrea Yoch. "If people want national news, they go to CNN.com or ABCnews.com. If they want to find out about traffic, they come to us."

The flagship site, WCCO's Channel 4000, won the National Press Club's Online Journalism Award for best news site in its first year for its coverage of the 1997 spring flood in Minnesota and North Dakota.

Several types of partnerships drive each IBS site. The 70-person IBS team provides Internet expertise; each TV station offers physical space, access to its content and on-air promotion (10 to 15 mentions of IBS's Web sites a day during newscasts). To promote their sites, IBS cuts deals with local businesses. In Minneapolis, for example, Channel 4000 has set up partnerships with local magazines, the Minnesota Zoo, the *St. Paul Pioneer Press* newspaper and the Minnesota Twins.

IBS partnerships vary from city to city. In Minneapolis, IBS owns and manages Channel 4000 for WCCO; in Portland, IBS manages Channel 6000 for KOIN-TV but splits ownership fifty-fifty with the TV station. Cofounders Reid Johnson and his partner George Johnson (no relation) hope to create 75 to 100 local-news portals within the next two years.

Despite everything that's been said about the importance of extending broadcast brands to the Web, Johnson says his local-TV prospects still fall back on conventional wisdom. "They say, 'Why in the world would we want to direct people to something that isn't watching us?'" he says. His response: "Ultimately, inevitably, people are going to be watching their computers. Would you just as soon they get their news from somebody else—or from you?"

Analysts predict the deal-making will continue for a while. "The Internet is a great place to experiment with things," concludes Spiegel. "Sometimes the experiments work. Sometimes they don't. But everybody's paying attention to it. The television industry in particular is watching very closely, with their checkbooks ready when they see things that make sense." **CIO**

Managing Editor Anne Stuart can be reached via e-mail at [astuart@cio.com](mailto:astuart@cio.com).

## Finding It Online

### ABC News:

[www.abcnews.com](http://www.abcnews.com)

### The Antenna, TV industry

Web site: [www.theantenna.com](http://www.theantenna.com)

### CBS News: [www.cbs.com](http://www.cbs.com)

### Channel 4000, WCCO-TV:

[www.wcco.com](http://www.wcco.com)

### CNET: [www.news.com](http://www.news.com)

### CNN Interactive: [www.cnn.com](http://www.cnn.com)

### Disney: [www.disney.com](http://www.disney.com)

### Infoseek: [www.infoseek.com](http://www.infoseek.com)

### Internet Broadcasting System:

[www.ibsys.com](http://www.ibsys.com)

### Jupiter Communications:

[www.jup.com](http://www.jup.com)

### MSNBC: [www.msnbc.com](http://www.msnbc.com)

### NBC TV: [www.nbc.com](http://www.nbc.com)

### Radio and Television News

Directors Foundation: [www.rtndf.org](http://www.rtndf.org)

### Starwave: [www.starwave.com](http://www.starwave.com)

### The Weather Channel:

[www.weather.com](http://www.weather.com)

### WRAL-TV: [www.wral.com](http://www.wral.com)



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Web EDUCATION

BY MEGAN SANTOSUS

**KIM B. CLARK:** With the Web, "we can bring the world into the classroom."



*At the venerable HARVARD BUSINESS SCHOOL, the Web is now AT THE HEART of the curriculum.*

*THE RESULT? A whole new crop of MBAs—  
with a whole new SET OF EXPECTATIONS.*

CORPORATE AMERICA, TAKE NOTE.

W

ALKING THROUGH THE HALLS OF THE HARVARD BUSINESS SCHOOL, YOU might not expect to encounter humility. But ask Dean Kim B. Clark about the school's information technology infrastructure as it existed three years ago, and he'll offer a frank summation of its weaknesses. "We had every network protocol known to mankind," says Clark. "It got to the point where our networks and systems were a major barrier to using technology in a powerful way."

Clark is not so modest, however, about the use of technology at HBS today. In an effort that began in 1995, HBS has invested \$10 million in a campuswide TCP/IP network designed specifically to run Web-based applications. Central to HBS's networked infrastructure are dozens of intranets that are changing the culture of the 90-year-old institution in subtle yet significant ways, enhancing the school's already strong sense of community and establishing a solid footing for the introduction of new academic services.

Since September 1996, students have used a schoolwide intranet to conduct research, prepare class assignments, collaborate in study groups, communicate with professors—even get in touch with alumni who may work at many of the

companies they study. "The intranet allows us to enhance what we do with our case-study method of teaching," says Clark. "We can bring the world into the classroom."

During a class, for example, a professor can log into the HBS intranet, pull up a case study and display it on a classroom monitor. So far, not a radical departure from distributing paper copies. But with the intranet, professors can also augment traditional class materials with real-time and multimedia information. The course page for a class on international marketing, for example, includes text-based information about Sony Corp. and Mitsubishi Electronics, among other global companies, as well as video clips of real commercials they broadcast in Europe. And on a course page

for an executive education class, students can read an online case about the electronic commerce strategy at industrial chemicals manufacturer AirProducts and Chemicals. They can link to competitors' Web sites as well as see video clips and hear company players comment.

#### Reader ROI

BY READING THIS STORY, YOU'LL LEARN

- ▶ How HBS overhauled its unwieldy IT systems and put the Web to work
- ▶ How technology is changing the face of management education
- ▶ Why today's MBA graduates are fundamentally different from those who came before them
- ▶ What this means for the future of corporate America
- ▶ Why your company had better sit up and listen



## ACADEMIC INTRANETS

For HBS students, the intranet is the communications backbone that holds their academic community together. Before classes even begin, HBS sends entering students the URL for a prematriculation Web site. On the site, students exchange e-mail and swap information about where to live, what extracurricular activities they like and so on. Once at school, the community expands beyond the confines of the Boston campus to include the more than 35,000 alumni who have volunteered to be contacted via e-mail by students about job searches.

But the intranet is more than a tool for social networking. With all course material online, students use the intranet to get assignments and schedules, participate in study sessions, pull up archived e-mail messages from professors and access research tools including OneSource and Dow Jones Interactive. Says John Fees, a

1999 MBA student, "I log on to a course page and it force-feeds me everything I need to know."

For classmate Andrea Chen, the use of technology in the curriculum has wider implications. "By using technology every day, we gain an understanding of how it affects managerial thinking."

**H**BS IS NOT THE ONLY TOP BUSINESS school—even in the Greater Boston area—to invest in Web technology. Just across the Charles River, the Sloan School of Management at MIT in Cambridge has a campus intranet and an alumni e-mail network similar to Harvard's. At UCLA's John E. Anderson Graduate School of Management, Web-based library, research and communication applications on a campuswide network are available to laptop-toting students via 2,500 access ports. "The idea is to integrate technol-

ogy into the curriculum so that students see Web-based tools as a natural extension of their abilities," says Jason Frand, Anderson's assistant dean and director of computer and information sciences.

While officials at HBS say the decision to build an intranet was made to enrich the learning environment, business schools are no different from businesses in seeking competitive advantage by investing in technology. "Management education is very competitive," says Charles Hickman, director of projects and services at The International Association for Management Education, the St. Louis-based agency that accredits business schools in North America. "Business schools compete on many dimensions, and certainly technology is one of them."

Business schools are also sensitive to the needs of companies—possibly an even more important constituency than the students. Schools like Harvard that strive to offer an education steeped in real-world relevance need to keep pace with the business world. And companies are not shy in letting business schools know their needs.

Neal Thornberry, a professor of management at Babson College in Wellesley, Mass., recently met with the head of development for a large, multinational firm on the topic of executive education. "He told us that he would not do business with a business school that did not have a great deal of distributed learning via the Internet," Thornberry recounts. "His current business school partner in the United States was chosen to a major extent because of its ability to have teams work on real business projects with faculty coaching over the Internet."

As business schools invest increasing sums in technology and integrate the Internet into their curricula, an important question is what impact that will have on the students themselves. Will the future CEOs of the world have an inherently greater understanding of how the Internet will affect business? Gerry McCartney, chief information officer at the Wharton School of the University of Pennsylvania in Philadelphia, thinks that wired campuses will have a profound impact on tomorrow's business leaders. At Wharton, MBA students are actively involved in developing and testing the interface to the school's suite of intranet-based communications tools. This sort of hands-on experience, McCartney

### The Trouble with Numbers

*Why the Harvard Business School doesn't worry about its intranets' ROI*

**ASK DAVID UPTON ABOUT THE PREDILECTION AMONG BUSINESS managers to nail down ROI for technology projects, and he'll practically leap out of his chair. "The way IT projects are assessed today is completely flawed," says Upton, a professor at the Harvard Business School who also heads up policy and strategy within the information technology group. Upton finds the tendency to assess ROI particularly inappropriate when it comes to Internet and intranet projects.**

**"The Internet has the potential to lead to new business models that managers may not currently be aware of," he explains. How then, he argues, is it possible to determine a payoff in the traditional sense? Instead of looking to the Internet exclusively as a way to reduce costs or increase revenues, Upton proposes that managers think in terms of a financial investment. "It's like an option-value in the future," he says. "The value of investing in the Web comes from the options it will create for an organization in the future." By options, Upton is talking about the ability to do things an organization has never thought of before. Upton believes the best way to capitalize on future options is to experiment with technology today and make decisions based on the lessons learned.**

**In the case of HBS, investments in Web-based technologies have created a portfolio of options for future operations. "We can stay in touch with alumni in new ways, offer ongoing and lifelong learning, develop new publishing opportunities and ultimately influence management practice in general," he says.**

**And with thousands of alumni in touch with HBS via e-mail, fundraising may never be the same.**

**—M. Santosus**



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## ACADEMIC INTRANETS

believes, will turn the old IT-versus-business relationship on its head. "The old model of developing applications was to have the IT folks write something for the business people to use," he says. As a result, business people often felt little ownership of the technology. The all-too-familiar result is the disconnect between IT and the business side that's prevalent at many companies. At Wharton, students who will be business leaders are developing the applications themselves. "They may not have an in-depth knowledge of technology, but they know how to put it to use," McCartney says. "And that's the value-add to business: people who can creatively use technology."

Meanwhile, companies that recruit grads from the top schools are feeling the need to tout their Internet savvy, even if they aren't from the high-tech realm. At Northwestern University's J.L. Kellogg School of Management in Evanston, Ill., companies often recruit students via e-mail and Web sites. "If employers didn't have an Internet presence, it would be a negative for them because students wouldn't see them as progressive as other companies," says Anne S. Browning, associate director of Kellogg's Career Management Center.

Wharton's McCartney agrees. "Students here have come to expect Internet-based services just like they expect the lights and air-conditioning," he says. As the top business schools get more sophisticated with the Internet, McCartney says grads will expect the same kinds of services from their eventual employers.

"These schools are becoming more technically proficient and more entrepreneurial as they seek to upgrade the level of services that they provide students," says Ben Slick, president and CEO of PeopleScape, a recruiting and executive search firm in San Jose, Calif. As the Web changes the nature of work, Slick believes that those students who are trained to use the Web will "eat up their competition, especially if they enter non-technology industries but bring the technical acumen that their rivals lack."

**W**ITH OTHER SCHOOLS INCLUDING Wharton, Anderson and Sloan online, HBS decided in 1995 to make a big commitment to the Web. Named dean in October of that year, Clark set as one of his priorities the complete overhaul of the

school's infrastructure. An economist by training, Clark is also an unabashed fan of technology. At the time of his appointment, the Internet was just gaining momentum as a viable alternative to client/server technology. It was a good thing, too, because HBS's client/server-based technology had devolved into a convoluted morass of standalone systems.

The five proprietary LANs and seven different e-mail systems strewn across campus hardly befitted an institution that prides itself on being at the leading edge. According to Susan Rogers, HBS's chief technology officer, the sequestered nature of the infrastructure created islands of information that couldn't be shared easily among the 200 faculty members—who

**SUSAN ROGERS:** Teaching 200 professors the intricacies of HTML was not an option.

had 77 different computer setups among them. Current versions of proprietary software had to be installed on client machines in order to access specific information. Tasks that should have benefited from technology were instead crippled by it. Even something as routine as looking up alumni information was hampered; only about 40 people campuswide could tap into the alumni directory.

Case studies—which are the mode of teaching at HBS—require group participation, collaboration and research, and groups of HBS professors and students often work together in teams.





# Time's up

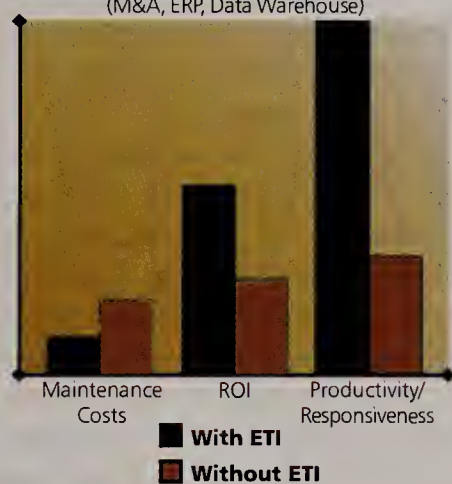
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## ACADEMIC INTRANETS

Here again, client/server proved no help. Professors shared research and case study information the old-fashioned way—by setting the copy machine on overdrive and handing out voluminous amounts of paper in class. CD-ROM-based “trophy” projects—which showcased technology at the expense of building flexible, reusable course materials—proliferated. “Back in the ’80s, some professors even used Harvard as a case study in what not to do,” says Paul W. Marshall, an associate professor who teaches finance and management in both the MBA and executive education programs.

Dean John McArthur, Clark’s immediate predecessor, stopped IT spending two years before the intranet initiative was launched. Spending remained frozen until a faculty committee came up with a strategy for technology investment early in 1995. The faculty committee sided with Clark’s push for a new architecture and supported his plan of building a campuswide network based on open systems. At the time, the Internet and Web browsers were being touted as the next great wave of computing technology. But HBS wasn’t jumping into untested waters. Clark, along with professors David Upton and Warren McFarlan, kept tabs on Internet developments. Upton and McFarlan, both of the technology and operations management department, spearheaded the creation of Web-based prototypes in the department’s computing lab, including applications for online courses.

“We asked whether IT was a central aspect of this school in terms of teaching, research and administration,” Clark recalls. If technology had been secondary, HBS would have opted to outsource it, much the way it does its food service operations and landscape management. But Clark and others at HBS had a grander idea: They envisioned technology—and the Internet, specifically—as a means to enhance the educational experience of students, no matter where those students

happened to be located. They also aimed to make HBS the leading technology user in management education.

In a span of 14 weeks beginning in October 1995, HBS installed a new TCP/IP-based network with open standards, upgraded or replaced 1,400 desktops and consolidated on a single e-mail system. By the following January, the school had its network in place, complete with standardized Microsoft Office applications, an Internet domain name (*hbs.edu*) and a single user-name password system.

The IT group didn’t do all the work on its own. Given Clark’s goal of enriching the curriculum, one of the first areas IS targeted for an intranet was course material. The IS group called in the Art Technology Group (ATG), an Internet design firm in Boston, to build an interface for “courseware” applications. There were a number of requirements. For example, because they frequently augment case studies with a variety of additional material, professors needed to be able to get that material on the Web. They also needed the flexibility to add to or change assignments on the fly. And because HBS’s curriculum is highly integrated in nature—material covered in one course can overlap into others, and students and faculty alike are expected to reuse and build upon it—HBS needed to get all 307 MBA courses and 50 Executive Education programs, not just a select few, onto the Web. “We needed to put Web publishing capacity in the hands of faculty,” Rogers explains. But, needless to say, teaching 200 professors the intricacies of HTML was not an option.

Since September 1996, professors (or their assistants) have posted all course information in an Oracle database that is used to generate customized course Web pages on the fly. Professors can view course information and edit content using dialog boxes and forms. For example, a professor can post a case study about GM for the first week of class. Later, if the professor wants to include supplementary material about the automotive indus-



**PAUL W. MARSHALL:** “Back in the ’80s, some professors even used Harvard as a case study in what not to do.”

try, all he has to do is log on to the course page, locate materials throughout the network and add them to the page by pushing an update button. The additional material can include case studies, online articles, even a video clip. The HBS digitized video collection is stored in a searchable database on a networked server.

Some professors include computer-animated simulations on their courseware pages. In Beer Game, for example, students in a manufacturing class assume the various roles of manufacturer, distributor, wholesaler and retailer. For each, the goal is to determine the ideal way to balance supply and demand. The simulation is integrated with an Excel spreadsheet so students can crank out computations quickly. Because Beer Game is on an intranet, several students can play the

“BY PUBLICIZING ITS INTRANET, *Harvard has legitimized the TECHNOLOGY INVESTMENTS the REST OF US have made.*”

—Jason Frand





different roles simultaneously.

For students, the intranet is a means to get information customized for them. The HBS course intranet relies on ATG's Dynamo, a Java-based Web engine that delivers customized pages on the fly when students log on. For example, when student John Smith logs on using his password, he'll get a personalized page complete with his class assignments and schedule. There are also other links available, including extensive resources from the Baker Library, Career Services information, the *Harbus* newspaper and faculty and student directories. All MBA students are required to own a PC. An IT support group handles connectivity issues on campus; remote access for all students is provided through the IBM Global Network.

Today every course is online, and the intranet has expanded into what Rogers considers to be dozens of intranets, each a collection of Web-based information

and tools created for a specific user group. At HBS, each user has a password that enables access only to those intranets designed for him or her. An MBA student, for example, can't access the Executive Education intranet, although many links—such as to the Baker Library—may be the same. In this kind of modular setup, users don't have to navigate through pages looking for the functionality they want.

While IS has trimmed its ranks from 90 people to 70 as a result of the intranets' relatively modest maintenance and development needs, HBS hasn't quantified direct cost savings (see "The Trouble with Numbers," Page 54). The open network has made sharing information a lot easier than before and has increased access to HBS's resources.

But in the competitive world of management academia, few observers are willing to crown HBS as the technology champs just yet. "We've been doing a lot

with technology long before Harvard," says Anderson's Frand. Still, Frand concedes, while HBS's technology may not be better than that found at other top business schools, the resources—and money—it has available to enhance online content are formidable. "By publicizing its intranet, Harvard has legitimized the technology investments the rest of us have made," Frand says. "They've turned what for us was a tactical decision into a strategic plan for them."

In typical Harvard fashion, Clark holds fast to the quest for leadership position, but he admits HBS can and will do a lot more with its network. "Technology is crucial to the future of education," he says. Likening the school's efforts to those of the Wright brothers, he says, "We're at the Kitty Hawk stage of the revolution." **CIO**

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*Features Editor Megan Santosus can be reached at msantosus@cio.com.*



# Flash Is Trash

*Forget the spinning logos and blinking links. Real people want real information, and fast.*

BY JIM STERNE

**F**OR YEARS, THE SUCCESSFUL MARKETING person has had to deal with both the Suits and the Black Turtlenecks. The Suits are high-level managers who feel that marketing is a hole into which they pour money. The Black Turtlenecks are thirtysomethings on Madison Avenue whose primary interest is winning awards for their dramatic advertising designs.

Now comes the Web, and with it another group the marketer must learn to live with—the tie-dyed, Birkenstocked, longhair Wire Heads. These are the Unix programmers in the back rooms of IS departments throughout the land, and they gravitate toward the new, the exciting and the challenging. Their career goal is to end up in the Advanced Technology Department of any company that has an Advanced Technology Department. In the meantime, they create a bit of havoc for the online marketing professional.

They like to code in Java. They think VRML is a great way to navigate a Web site. Left to their own devices, they will set your logo spinning, your buttons rolling over and your Web site visitors moving on to less cataclysmic events. The Wire Heads are making a big mistake.

Bill Gallagher, president of IPub Interactive ([www.ipub.com](http://www.ipub.com)) and publisher of Guerrilla Marketing Online ([www.gmarketing.com](http://www.gmarketing.com)), asked webmasters at a recent conference, "How many of you cringe when you see the words, 'Starting Java'?" All of the hands went up. Mine, too.

I can handle a little JavaScript, but I've set my browser to disable Java. It takes too long to initialize and it paralyzes my entire machine in the process. In my opinion, it's just not ready for prime time, at least out there on the Web. On an intranet, it's a different story. You can create a wonderful world of applets and servlets to run around your intranet and you'll save oodles of programming time when you start reusing Java components. Outstanding. Same with ActiveX.

But on your intranet, you know what configurations of which operating systems are using which versions of which browsers that have which plug-ins installed. Out on the Web there are too many possible combinations of technologies to fathom.

Gallagher advocates using the least amount of technology necessary. Use cached GIFs instead of frames. Use simple buttons instead of rollovers. Don't use streaming anything unless it conveys some critical

piece of information that cannot be divulged some other way.

Anyone out there know which Web site gets the most traffic? Yahoo, of course. Have you looked at the Yahoo home page? It's gray. Why would the world's busiest Web site have a boring gray background? With more than 31 million people a month hitting its home page, it is acutely aware of the overhead on its server. With billions and billions of pages served, each one has to be as sparse as possible.

But it wasn't the 136 bits it transmits that kept it from including the string `BGCOLOR="#FFFFFF"` each time. Yahoo was considering the perspective from the other side of the Web.

"There are so many video cards out there that turn a white page white-hot," says Dave Shen, director of design at Yahoo. "It's not so bad on a Mac, but those PCs get tiring to look at."

Shen's advice? Know thy customer.



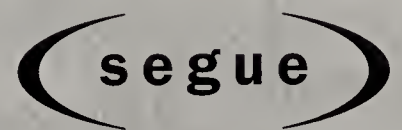
ILLUSTRATION BY NOAH WOODS





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Yahoo puts up a beta home page for more than a month to get reaction from surfers before a big change. It makes use of browser detectors to serve up *www.yahoo.com/text* to those using Netscape version 1. Yes, they're out there. Right now, Netscape 2 through 4 and Internet Explorer 3 and 4 make up the majority of visitors, so Shen says it's going to be a while before they use any HTML tricks newer than color-filled tables.

"Fast is important," says Shen. But what about the Yahoos themselves? Surely they're not bugged surfing a slightly more sophisticated page with a few Shockwave files, a few Java applets and a few VRML worlds?

Turns out there's a different problem at higher speeds—train of thought. "Please don't make me stop what I'm doing or keep me from what I'm looking for just to download a plug-in," begs Shen. Yes, we'll all have gigabit wireless access from our wristwatches any minute now. Even then, it's not a good idea to stand in the way of a data-starved site surfer.

The text version of Silicon Graphics Inc.'s home page (*www.sgi.com*) is one of the few home pages that is truly text only. Even the name of the company trades in its trademarked font in favor of quick-loading HTML italics. Like most companies that care for their customers, SGI conducted visitor surveys and read the e-mail

his customers will tolerate: 8 seconds for a navigational page and 30 seconds for a data sheet. Phil is proud of his austere approach. "In 1996 design engineers clicked an average of 3.7 times per transaction with an average of one transaction per visit. In 1997 we got that down to 2.7 clicks per transaction and one

### **National Semiconductor's customers will tolerate 8 seconds for a navigational page and 30 seconds for a data sheet.**

to the webmaster. The result was what most Web site managers have found: The majority of people seek technical information and not entertainment. SGI shortened the number of clicks it takes to get to key information and provided more paths to the same content with fewer geegaws.

Phil Gibson, director of interactive marketing at National Semiconductor Corp., has a very clear idea about what

transaction per visit," he says. "We even got rid of a few JavaScripts because some versions of Netscape on a Macintosh weren't able to use it."

And the National Semiconductor extranet is even more Spartan. The company wants to give the fastest access possible to thousands of distributors and hundreds of salespeople.

National Semiconductor's Team Ex-



GATEWAY DEMANDS  
CAN BE HUNGRY BEASTS!

HANG ON  
TO YOUR BANANAS.



tranet site includes templates to allow salespeople to create private pages for their customers. "Product descriptions, presentations and proposals are available to the salespeople behind a password-protected firewall," says Gibson. "They can electronically direct the delivery of this information in electronic or in paper form to any of their customer prospects. We don't let them get carried away with creative touches, but we do let them improve customer communication."

Because many members of the sales force at National now use Palm devices to connect to Team Extranet, simplicity of presentation is especially important. Grabbing new leads, getting prices approved, reporting to management and more have had all the ostentation sucked out of them to make sure the information is accessible as fast as possible.

The World Wide Web doesn't even have music on hold. It has Looking Up Host, Contacting Host, Host Contacted, Waiting for Reply and Transferring Data. By the time people actually get to your

site, they don't want to be entertained.

So round up the propeller heads in your IS department and give them a place on your Web site to play around, strut their stuff and entertain the spectators.

At [playground.sun.com](http://playground.sun.com), Sun offers "a server operated by the Internet Engineering group of SunSoft, a division of Sun Microsystems Inc." Silicon Graphics offers up "Serious Fun" at [www.sgi.com/fun](http://www.sgi.com/fun). It's full of freeware, images and movies to play with.

Old, stodgy AT&T has The Attic at [www.att.com/attlabs/attic/index.html](http://www.att.com/attlabs/attic/index.html), which it describes as a "repository of odd links, historic images, items that defy easy classification. Rummage around a bit—you never know just what you'll find!"

There's something odd going on at [www.ibm.com/Stretch/EOS](http://www.ibm.com/Stretch/EOS)—it's the Electric Origami Shop slated as Imagination + Technology = Fun! The Electric Origami Shop contains puzzles ("Not your average brain-benders. Plus Cliff's toughest puzzle yet.") and the Alien Snow Grow, where you can grow cus-

tom crystals in real-time.

But perhaps the best example of Oh-heck-it's-only-the-Web-so-let's-have-some-fun is the MOPy Fish page at HP ([www.interactive.hp.com/fish](http://www.interactive.hp.com/fish)).

The HP pet fish gains its unique personality from the way you treat it. If you feed it regularly and play with it, you will be the lucky owner of a fish with a happy disposition, a fish that is healthy and pleased to see you every morning. If, however, you aggravate your fish, it may show aggression, sulk and develop "SFA—Serious Fish Attitude." As with natural fish, if it is neglected it will fall ill and die, simply floating to the top of its aquarium.

If you force your site visitors to wade through your aquarium of Web frivolity, they too will end up with SFA. So keep those customer-colored glasses firmly in place and don't let the Longhair Ponytails ride roughshod over your Web site. **CIO**

*Jim Sterne is the author of World Wide Web Marketing. He can be reached at [jsterne@targeting.com](mailto:jsterne@targeting.com).*

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# Designing Principles

*An online catalog is only as good as its design*

BY FRED HAPGOOD

# A

S THE PACE OF ONLINE COMMERCE ACCELERATES, its hot spot is becoming increasingly clear. The focal point for many merchants is not payment protocols, online advertising or multimedia content but the area of a Web site where buyers and sellers interact directly with real products: the catalog. In an environment where buyers find mer-

chants from lists generated by search engines, the convenience and quality of the online catalog become key points of differentiation among merchants.

In global markets where traditional marketing techniques are impractical, a good catalog is vital to the success of online vendors. Further, the rich logging capacity and responsiveness of online catalogs can generate information every department can use, from marketing to purchasing to management. Add these features together, and it is clear why online catalogs are a focus of corporate investment and management attention.

The challenge is building catalogs that combine power with ease of use from the perspective of both visitors and merchants. Combining power and usability characteristics sounds straightforward, yet it's not that simple. Three issues overlap: integrating the catalog into back-office functions, including accounting, inventory, shipping, marketing and various third-party services such as credit verification; simplifying the maintenance that merchants must manage in regard to both product presentation and back-office integration;

and making a site easy to navigate for visitors who might be new not only to a specific catalog but to online commerce as well. When people go online for the first time, they "expect a little confusion," says Adam Caper, CEO of HubNet Communications Ltd. ([www.hubnet.com](http://www.hubnet.com)), an online service offering Boston-area restaurant listings. "But if they are still confused on their second visit, you've lost them."

## Harder Than It Looks

Even the simplest catalog features can demand fairly sophisticated back-office integration. Suppose a vendor wants to offer alternatives to out-of-stock items a customer chooses. The concept of providing a list of alternative products is simple enough. But to be useful, the alternatives should be suggested while

Web on the Road  
Page 66

Save the Trees  
Page 68

One-Stop  
Security  
Page 70

Spam I'm Not  
Page 70

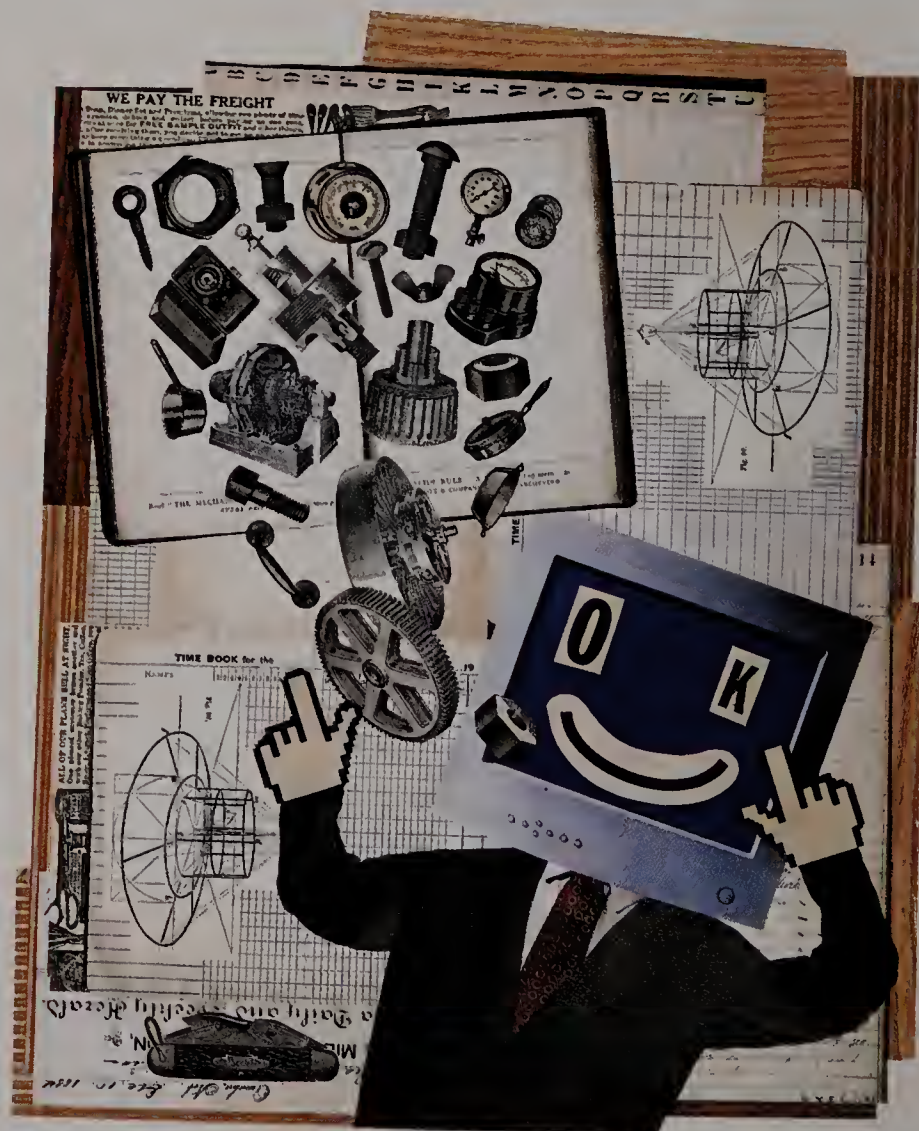


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the buyer is still at the site and ideally should consist of items currently available. For starters, such functionality requires very fast inventory lookups. But then what happens, for example, if customers make a mistake entering their credit card information? Vendors need to catch these errors before the customer logs off the site, something that can't be done without real-time integration with the credit verification systems.

Unfortunately, relevant back-end information systems tend to be mutually incompatible. However, there are tools, such as InterWorld Corp.'s ([www.interworld.com](http://www.interworld.com)) Process Builder, that are designed to deal with incompatible systems, processes and business practices. Process Builder also enables merchants to provide visitors with customized views based on data-driven dynamic content.

### More Options, More Maintenance

In theory, marketing managers should be able to follow up on catalog sales patterns quickly given the reporting capabilities of computerized systems. For example, marketers could analyze customer response to an online sale and change the mix of products in a matter of hours. Or merchants could experiment with multiple category placements, associate alternative products and accessories with specific searches and support personalized catalogs that present each visitor with a catalog custom-designed around his or her needs.

While all these options can be productive, they add to maintenance costs, which in turn can increase training costs for merchants. One of the first companies to sell shrink-wrapped online catalog software, ICat Corp. ([www.icat.com](http://www.icat.com)), approaches the maintenance issue by offering three different online catalog products, each with successive levels of maintenance requirements. For merchants selling 10 products or fewer online, there's Commerce Online, a free Web storefront hosted by ICat that requires a merchant to have a computer, modem and browser. ICat also offers and hosts a premium version for merchants with anywhere from 11 to 3,000 products to sell. With this option, merchants pay a monthly fee to ICat, which takes care of online ordering, sales tracking reports and promotional activities, among other services. For merchants that want more flexibility, ICat's Commerce Publisher includes software for organizing product data, managing catalogs and integrating online com-

## Web on the Road

*You can get there from here*

ONE OF THE GREATEST boons to mobile professionals was the invention of handheld devices such as 3Com Corp.'s PalmPilot or IBM Corp.'s Workpad PC Companion. Add cell phones to the mix, and there was little reason someone on the road couldn't access the same information he could while in the office.

Then companies began building intranets for critical applications. Mobile workers who are worried about being cast out of the information loop can relax. Several tools make Internet access easy from the road.

AvantGo Inc. ([www.avantgo.com](http://www.avantgo.com)), based in San Mateo, Calif., offers software products that allow PalmPilot and IBM WorkPad users to access Web-based information. Through partnerships with content providers including *The New York Times*, Wired News and Excite, mobile users create content channels on their handhelds with AvantGo Desktop software. Each channel represents a URL with hyperlinks to Web pages and can include intranet-based information. AvantGo Client software delivers Web-based information to the handheld device. For example, if Joe User creates a channel called Joe's Customer List, he can include customer names and addresses, with hyperlinks to information that's on the corporate intranet. Then he simply synchronizes the handheld device with a desktop machine

on the corporate network and takes the information on the road. The two software products are available together from AvantGo's Web site for \$49.95.

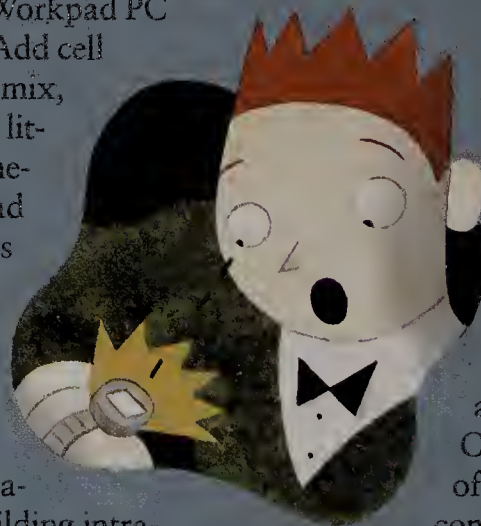
If a cell phone is the device of choice on the road, users can still get Internet-based information. Unwired Planet Inc. ([www.uplanet.com](http://www.uplanet.com)), a Redwood City, Calif., company, offers UP.Link, a communications plat-

form including a browser, server and markup language that allow handheld devices such as phones and PDAs to access Internet and intranet information through wireless data networks. Carriers Bell Atlantic Mobile, GTE Wireless and AT&T Wireless currently offer Internet access on their wireless data networks to subscribers.

PocketNet is AT&T Wireless Services' ([www.attws.com](http://www.attws.com)) Internet access and e-mail service. At the moment, PocketNet works in conjunction with Samsung's Duette and Mitsubishi's 100 phone models. By selecting the Info Sites item from the phone's onscreen main menu, users can access information from content sites such as Travelocity and Bloomberg Online. The \$299.95 price tag (plus a monthly service charge starting at \$29.95) includes the phone and service activation setup.

At this rate, it won't be long before Internet data is delivered to a wristwatch.

—Megan Santosus





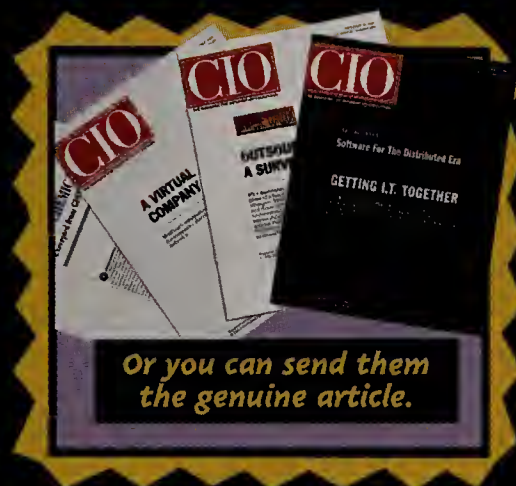
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merce functions with back-office systems. Merchants can start with Commerce Online and ramp up to Commerce Publisher as they become more comfortable with maintenance issues.

### The Move to Customize

The Commerce Publisher option takes aim at the latest trend in catalog design. Merchants are increasingly seeking to customize their catalogs by presenting visitors with an environment tailored to their specific needs and interests.

Brad Haigis, product manager at Open Market Inc. ([www.openmarket.com](http://www.openmarket.com)), a provider of Internet commerce software, says one way to customize catalogs is to offer users different interfaces based on their history at a site. "A purchasing manager who uses the catalog every day could handle a sophisticated set of tools, whereas a first-time visitor might need to be walked through the features," Haigis says.

Don Swenson, president of Saqqara Systems Inc. ([www.saqqara.com](http://www.saqqara.com)), a developer of catalog management software for business-to-business electronic commerce, points out that letting corporate buyers know whether their company purchased a given item in the past would be a useful customized feature. Catalogs that associate visitors with their companies can support special pricing and other buying or promotional deals. Both Open Market's LiveCommerce and Saqqara Systems'

## Catalogs that associate visitors with their companies can support special pricing and other buying or promotional deals.

StepSearch Professional cataloging software support custom publishing that can add such levels of personalization.

### Navigation Issues

Product terminologies vary widely, making most product searches a frustrating navigational exercise in false positives and negatives. Some companies have been able to sidestep this problem by building catalogs without search engines, essentially using the familiar metaphor of

floors and aisles. Customers on the auction side of the Internet Shopping Network ([www.isn.com](http://www.isn.com)) choose a category (such as Arts and Crafts or Health and Fitness) or floor and then scroll through virtual aisles of products in that category. According to Keith Foxe, Internet Shopping Network Inc.'s director of communications and promotion, this approach works when customers arrive looking for a shopping experience, not a particular product.

The floor and aisle strategy couldn't be simpler, but for most businesses the terminology issue cannot be avoided. "In the old days, product information was distributed during sales calls," says Kanina Blanchard, senior communications resources manager at The Dow Chemical Co. ([www.dow.com](http://www.dow.com)). "Our reps could see to it that customers understood what each term meant. But many of the visitors to our site are new business. Forty percent are from overseas. We can't assume they know to look for Styrofoam under 'Fabricated Products.'"

Together with Dow's marketing managers and customer reps, Blanchard's office developed new sets of more universally meaningful category descriptions. For example, Blanchard says that Dow replaced "fabricated products" with "construction products." The company also lists products by a variety of cross-references including product name, application, global industry name and market. Each description slices into the product database from different directions.

Efforts like Dow's partially solve the problem with nonstandard terminologies but only within the realm of a single company. A more comprehensive attack on the problem is that led by the TPN Register ([www.tpn.geis.com](http://www.tpn.geis.com)), a consortium founded by GE Information Services and the Thomas Publishing Co., whose flagship product, the directory Thomas Register, imparts order to the universe of industrial goods much as the Dewey Decimal system orders the organization of books in a library. An editorial board matches descriptions with products submitted for classification. Currently, the board

## BROWSER

## Save the Trees

Corporate HR departments are known for being effusive paper-pushers. Seeker Software Inc. of Oakland, Calif., could help them save a few trees with its Events@Work application. The Web-based software automates the flow of personnel-related manager transactions, from hiring and compensation to job changes and employee "separations," whether of the volunteer variety or not.



In addition to workflow features, the software enables managers to hyperlink to HR-related data such as company policies, safety regulations and salary tables that reside online. Events@Work is customizable to an organization's particular workflow, and it can be integrated with a variety of back-office systems, including HR management systems from PeopleSoft Inc. and Tesseract.

The price of Events@Work is based on size of company and ranges from \$20,000 to \$80,000. For more information, call 510 433-9310 or visit [www.seekersoft.com](http://www.seekersoft.com).



At the verge of the 21st century, companies must leverage the enormous opportunities continually created by technological advancements to better meet the intense demands of complex information networks, an increasingly dynamic global economy and the never-satisfied customer. In effect, the channels of information distribution and the ways companies have customarily added value and organized their work have been deeply impacted by IT.

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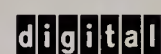
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imposes 60,000 product headings on 500,000 products made by 23,000 suppliers. A visitor landing on a catalog built around the Thomas terminology is likely to find fewer false negatives or positives, in part because Thomas has been in business for a hundred years and its nomenclature is widely known and accepted.

TPN Register builds catalogs for online vendors. It licenses use of the product heading database from Thomas and then associates each item the merchant offers online with a standard set of data files for such things as price, dimensions, colors and so on. TPN also standardizes the data in those files, making sure, for example, that abbreviations are all handled consistently.

### Standardize or Customize?

Visitors want to use online catalogs for comparison shopping, something which requires some degree of standardization. Yet merchants want to differentiate their catalogs by supporting personalized services. Indeed, one of the harder problems presented by online catalogs is balancing standardization with personalization. At the extreme, it's possible to imagine distributors who have a stronger interest in standardization taking over the catalog function entirely. Perhaps in the future merchants will do nothing but maintain databases for distribution companies that maintain industrywide catalogs. Large distributors such as Marshall's PLC ([www.marshalls.com](http://www.marshalls.com)), the producer of construction materials, are moving in this direction.

However, merchants are unlikely to give up control of their customer traffic without a struggle. One possible approach

merchants can take to maintain control is to supply personal services inside the catalog. By doing so, merchants can differentiate themselves by providing catalog services distributors can't offer. The online bookstore, [www.altbookstore.com](http://www.altbookstore.com), gives customers a "notepad" in which they can accumulate lists of prospective pur-

chases and run pricing and availability checks on the database as they desire. Many other sites, including Dow Chemical's, are experimenting with plans to give customers their own office inside the company site. Typically, these offices include order histories and wish lists, but they might develop in time into full-featured service sites where customers can do such things as comparison shop among different merchants.

What's at stake in the battle of distributors versus merchants and standardization versus differentiation is nothing less than the future of online catalogs and electronic commerce. It's a future that will be determined by function and shaped by design. **CIO**

*Fred Hapgood is a Boston-based technology writer. He can be reached at [hapgood@pobox.com](mailto:hapgood@pobox.com).*

## BROWSER

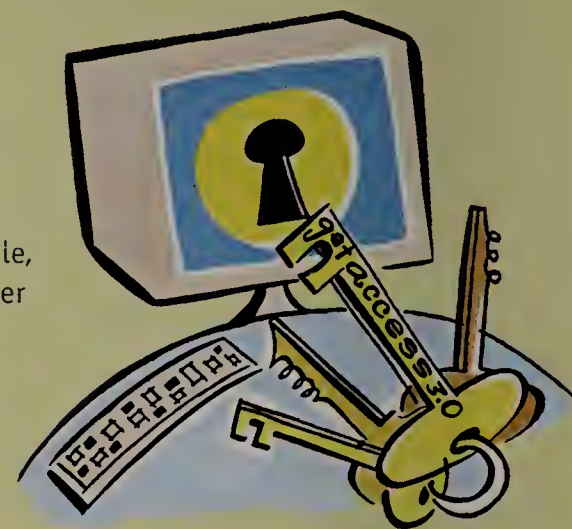
### One-Stop Security

**W**hen every Web application has its own access-control mechanism, it adds up to operational nightmares for system administrators and navigation headaches for users. According to EnCommerce Inc., its getAccess 3.0 offers all-in-one security management for intranets and extranets, simplifying both access and management for system administrators. A single sign-on and unified administration for multiple applications on multiple

servers are offered by getAccess. The browser-based software also provides a simple, personalized user environment, strong security and interoperability with a variety of legacy systems. Finally,

Santa Clara, Calif.-based EnCommerce says the software is highly scalable: Some getAccess customers already serve 100,000 registered users and expect to reach a million or more by the end of 1998. Pricing is based on number of registered users starting at \$25 per user for small systems.

For more information, visit [www.encommerce.com](http://www.encommerce.com), send an e-mail to [info@encommerce.com](mailto:info@encommerce.com) or call 800 318-6010.



### Spam I'm Not

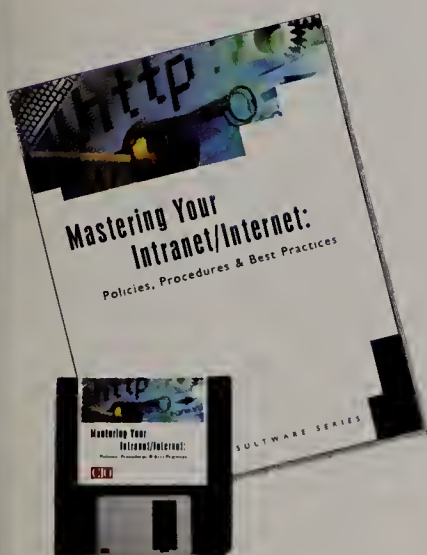
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## INDEX

Page numbers refer to the first page of the article(s) in which the company is mentioned. This index is provided as a service to readers. The publisher does not assume any liability for errors or omissions.

### Company Index

|                                      |            |
|--------------------------------------|------------|
| 3Com Corp.                           | 64         |
| Activ Media Inc.                     | 12         |
| Advanced Interactive Media Group LLC | 44         |
| Allied Signal Inc.                   | 12         |
| Andersen Consulting                  | 24         |
| AT&T Corp.                           | 60         |
| Autobytel.com Inc.                   | 24         |
| AutoVantage                          | 24         |
| AvantGo Inc.                         | 64         |
| Binary Compass Enterprises Inc.      | 22         |
| Cable News Network Inc.              | 44         |
| CBS Worldwide Inc.                   | 44         |
| CDnow Inc.                           | 22         |
| CNET Inc.                            | 44         |
| Cyberian Outpost Inc.                | 22         |
| Digital Impact Inc.                  | 64         |
| Disney Enterprises Inc.              | 44         |
| Dow Chemical Co., The                | 64         |
| Eastman Kodak Co.                    | 32         |
| E.I. du Pont de Nemours and Co.      | 28         |
| Elron Software Inc.                  | 12         |
| EnCommerce Inc.                      | 64         |
| Fine.com                             | 74         |
| Frankfurt, Garbus, Klein & Selz      | 44         |
| Gap Inc.                             | 64         |
| GE Information Services              | 64         |
| GeoCities                            | 32         |
| Go2netInc.                           | 24         |
| Guerrilla Marketing Online           | 60         |
| HubNet Communications Ltd.           | 64         |
| IBM Corp.                            | 32, 60, 64 |
| ICat Corp.                           | 64         |
| Individual Investor Group            | 24         |
| Infoseek Corp.                       | 44         |
| Internet Broadcasting System Inc.    | 44         |
| Internet Shopping Network Inc.       | 64         |
| InterSystems Corp.                   | 12         |
| InterWorld Corp.                     | 64         |
| IPUB interactive                     | 60         |
| Jupiter Communications LLC           | 44         |
| Marshalls PLC                        | 64         |
| McGraw-Hill Companies, The           | 32         |
| Microsoft Corp.                      | 28, 44     |
| Mobilecomm                           | 12         |
| MTS Inc.                             | 22         |
| NASDAQ                               | 74         |
| National Broadcasting Co.            | 44         |
| National Semiconductor Corp.         | 60         |
| Neilsen Media Research               | 44         |
| Net.Genesis Corp.                    | 24         |
| Netscape Communications Corp.        | 44         |
| News & Observer Publishing Co., The  | 44         |
| Northwest Airlines                   | 24         |
| Open Market Inc.                     | 64         |
| Partners HealthCare System Inc.      | 12         |
| PBSOnline                            | 24         |
| People5cape                          | 52         |
| PeopleSoft Inc.                      | 64         |
| PricewaterhouseCoopers               | 32         |
| Procter & Gamble Co., The            | 32         |
| Saqqara Systems Inc.                 | 64         |
| Seeker Software Inc.                 | 64         |
| Sharper Image Corp., The             | 64         |
| Silicon Graphics Inc.                | 60         |
| SportsLine USA Inc.                  | 44         |

|                                       |    |
|---------------------------------------|----|
| SQL Financials International Inc.     | 12 |
| Starwave Corp.                        | 44 |
| State Street Discount Inc.            | 22 |
| Sun Microsystems Inc.                 | 60 |
| Symantic Corp.                        | 28 |
| Tesseract                             | 64 |
| Thomas Cook Currency Services Inc.    | 12 |
| Thomas Publishing Co.                 | 64 |
| Time Warner Inc.                      | 4  |
| Time Warner Telecom                   | 32 |
| Tower Records                         | 64 |
| Truste Inc.                           | 32 |
| Unwired Planet Inc.                   | 64 |
| Walt Disney Co., The                  | 32 |
| Weather Channel Enterprises Inc., The | 44 |
| WRAL/Capitol Broadcasting Co.         | 44 |
| Yahoo Inc.                            | 60 |

### Advertiser Index

\*Denotes Section 2 Advertisers

|                                        |                           |
|----------------------------------------|---------------------------|
| Axiom Corp.                            | 2                         |
| Amdahl Corp.                           | C3                        |
| American Power Conversion              | 5*                        |
| Aonix                                  | 35*                       |
| Best! Software                         | 17*                       |
| BMC Software                           | 41*                       |
| Business Objects Inc.                  | 29*, 73                   |
| Cabletron Systems Inc.                 | 31*                       |
| Candle Corp.                           | 48                        |
| CAP Gemini America Inc.                | 63                        |
| CEMA                                   | C3*                       |
| CIO Communications Inc.                | 21*, 39, 67*, 69*, 71*    |
| Cisco Systems Inc.                     | 19                        |
| Comdex                                 | 73*                       |
| Computer Associates Intl. Inc.         | C2*, 5, 13*               |
| Compuware Corp.                        | 27                        |
| Datalink                               | 77                        |
| Dell Computer Corp.                    | C2                        |
| DLTape Systems                         | 25                        |
| Dow Jones & Co.                        | 9*, 29                    |
| Dun & Bradstreet Software              | 71                        |
| Empirical Software                     | 15*                       |
| Ernst & Young LLP                      | 69                        |
| ETI                                    | 57*                       |
| Exabyte Corp.                          | 15                        |
| Gateway 2000                           | 8                         |
| Hewlett Packard Co                     | 31                        |
| IBM Corp.                              | C4*, 6*, 25*, 49*, 53, 55 |
| Inacom Corp.                           | 22                        |
| Intel Corp.                            | 40                        |
| Intelispan                             | 75                        |
| Intersolv                              | 62*                       |
| JD Edwards & Co.                       | 11*                       |
| Kingston Technology                    | C4                        |
| Lockheed Martin Corp.                  | 3*                        |
| Lotus Development Corp.                | 35                        |
| Mercury Interactive                    | 27*                       |
| MKS Inc.                               | 65*                       |
| Modcomp                                | 55*                       |
| Netscape Communications Corp.          | 3                         |
| New Horizons Computer Learning Centers | 67                        |
| Novell Inc.                            | 16                        |
| Oracle Corp.                           | 7                         |
| Peregrine Systems                      | 20A*                      |
| Platinum Technology                    | 37                        |
| Primeon                                | 79                        |
| Remedy Corp.                           | 51*                       |
| SAP America Inc.                       | 39*                       |
| SAS Institute Inc.                     | 21                        |
| Segue Software                         | 61*                       |
| Sybase Inc.                            | 65                        |
| Tivoli Systems Inc.                    | 36*                       |
| Unisys Corp.                           | 11                        |
| U5 West (Regional)                     | 39                        |
| U5Web Corp.                            | 43*                       |
| UUNET                                  | 19*                       |
| VisionTek                              | 43                        |
| Wang Laboratories Inc                  | 45                        |

## CIO SALES OFFICES

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JOSEPH L. LEVY  
508 935-4601

### Publisher

GARY J. BEACH  
508 935-4202

### Senior VP/Sales

MICHAEL J. MASTERS  
973 244-5500, Ext. 21

## EAST COAST

### Regional Director / Advertising Sales

FRANK S. GENOVESE  
973 244-5500, Ext. 19

### Regional Managers / Advertising Sales

EILEEN P. LOBAUGH  
973 244-5500, Ext. 18

KATHY POWERS  
973 244-5500, Ext. 14

### Advertising Sales Associates

STACY G. GREIMEL  
973 244-5500, Ext. 16

JOAN BONADEO  
973 244-5500, Ext. 17

ANGELA FUNG  
973 244-5500, FAX 973 227-1565

## NEW ENGLAND

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LEN GANZ  
508 935-4039

### Advertising Sales Associate

STEPHANIE ROY  
508 935-4092, FAX 508 872-0618

## SOUTH CENTRAL

### Regional Manager / Advertising Sales

ROBERT E. SAWDON

### Advertising Sales Associate

SOUNTHALY OUTHAVONG  
512 306-9801, FAX 512 306-9805

## NORTH CENTRAL

### Regional Manager / Advertising Sales

KEITH H. KENNER

### Advertising Sales Associate

ANNE SWARTZ  
847 441-5005, FAX 847 441-5150

## WEST COAST

### Regional Director / Advertising Sales

RICHARD BASTAS  
415 693-1988

### Regional Managers / Advertising Sales

JAMES BARRETT  
415 693-1995

PAULA J. CONNOR  
415 693-5634

### Advertising Sales Associates

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415 693-5630

SYLVIA WEILER  
415 693-5632

ALLISON WITTER

415 693-1994, FAX 415 398-4649

## SOUTHERN CALIFORNIA

### Regional Manager / Advertising Sales

NANCY A. COY

### Advertising Sales Associate

JANIS WIKANDER  
949 475-5579, FAX 949 475-5583

## LIST SERVICES

### List Services Manager

KATHRYN A.W. GRAYSON  
508 935-4072

### List Services Sales Associate

AMY McCABE  
508 935-4151  
800 859-5478, FAX 508 872-8506

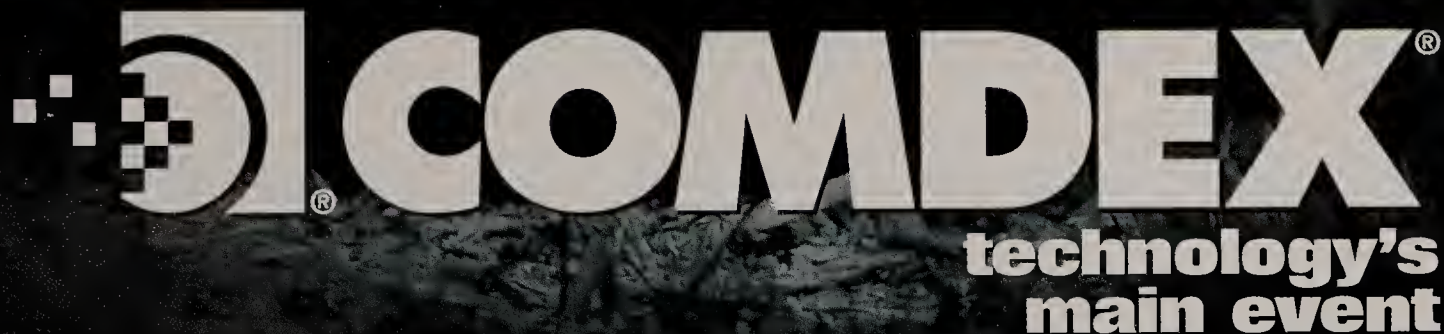
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Next snaps: Las Vegas, November 16 - 20, 1998 • Vancouver, January 11 - 13, 1999 • Chicago, April 19 - 22, 1999



# Speeding Up [www.nasdaq.com](http://www.nasdaq.com)

*NASDAQ's redesign sought to answer a need for speed and easier information access*

## COMPANY

NASDAQ Stock Market, Washington, D.C.

## TRAFFIC

10 million to 12 million page views per day

## REASON FOR REDESIGN

It took too long to download the home page because of Java and frames; users did not always click deep enough into the site to access information on NASDAQ companies.

## DESIGNER

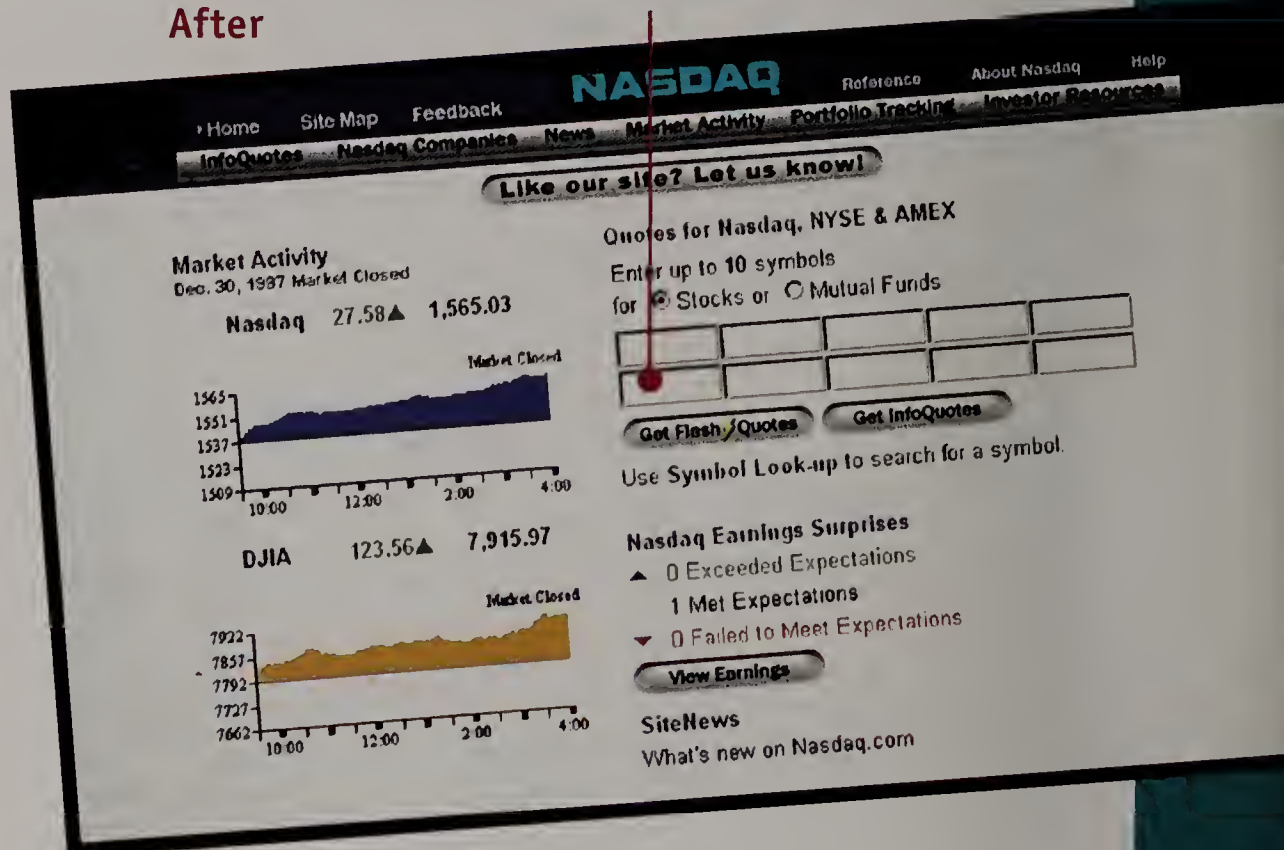
Fine.com

## QUOTE OF NOTE

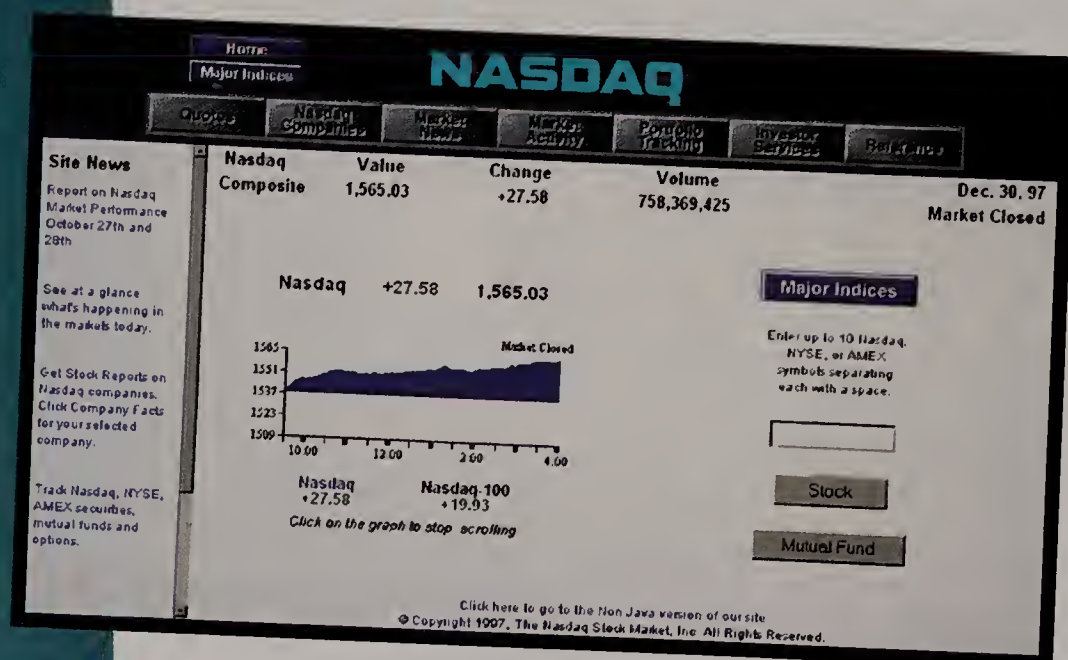
"We recognized that many people didn't want the fancy technology," says Maggie Kelly, vice president of international marketing at NASDAQ. "They just wanted to have quick access."

The new NASDAQ site makes it clear that users can get quotes for as many as 10 stocks at a time.

## After



## Before



## InfoQuote

The new NASDAQ site gives users a choice of getting a "FlashQuote" or an "InfoQuote." FlashQuotes deliver just the essential stock price information. InfoQuotes also provide links to analyst and background information on a company.

The old NASDAQ site had a Java applet and frames on the front page. Some users, however, said that their browsers did not support frames or Java, that their workplaces blocked Java applets or that the features slowed the page down.



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